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Service Console Interface Reference Manual

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About this guide

About this manual

The *Service Console Interface Reference Manual* is your guide to the administration and maintenance of your Symposium OPEN IVR system.

This manual explains how to modify the configuration of your system and includes procedures for performing various system administration and maintenance tasks.

If, after following the procedures in this manual, you require technical assistance, contact Customer Service.

Audience

This guide is written for use by site administrators and trained service personnel who will be responsible for installing the system and associated option packages, maintaining normal operations, and troubleshooting.

SCI accounts

Three accounts can be used to log in and use the various features of the SCI: `user`, `admin`, and `service`. The purpose of these different accounts is to restrict access to the system based on the authority and responsibility of various groups of people in your organization. The `user` account has the least access authority, and the `service` account has the greatest.

The `user` account has the privilege only to monitor system activity and access various event or error logs. It does not have the privilege to change the system configuration or shut down the system.

The `admin` account has all `user` account privileges plus the ability to change some system configuration options and install new software updates.

The **service** account has all system access privileges to maintain the system.

Related documents

You may find the following additional documents useful:

Document	NT number/ A0 number/
Symposium OPEN IVR 4.0 Getting Started Guide	NTVE8201 A0732100
Symposium OPEN IVR 4.0 Product Guide	NTVE8202 A0732101
Symposium OPEN IVR 4.0 System Administration Guide	NTVE8203 A0732102
Symposium OPEN IVR 4.0 Application Development Guide	NTVE8209 A0732108
Symposium OPEN IVR 4.0 Cell Catalog	NTVE8208 A0732107
Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide	NTVE8204 A0732103
Symposium OPEN IVR Planning and Engineering Guide	NTVE8205 A0732104
Symposium OPEN IVR 4.0 Error Messages Guide	NTVE8206 A0732105
Symposium OPEN IVR 4.0 Web Option Guide	NTVE8210 A0732109
Symposium OPEN IVR 4.0 SQL Server User Guide	NTVE8216 A0732115
Symposium OPEN IVR 4.0 Service Console Interface Reference Manual	NTVE8207 A0732106
Symposium OPEN IVR 4.0 VT100 Host Connectivity Configuration and Development Guide	NTVE8221 A0732120

Symposium OPEN IVR 4.0 Text-to-Speech Option Guide	NTVE8213 A0732112
Symposium OPEN IVR 4.0 Speech Recognition Option Guide	NTVE8212 A0732111
Symposium OPEN IVR 4.0 Fax Option Guide	NTVE8211 A0732110
Symposium OPEN IVR 4.0 CAS and ISDN Signaling Option Guide	NTVE8214 A0732113
Symposium OPEN IVR 4.0 Integration Package for Meridian Link User Guide	P0881297 NTVE8215
Symposium OPEN IVR 4.0 Prompt Import Utility Guide	NTVE8218 A0732117
Symposium OPEN IVR 4.0 SNA Host Communications Guide	NTVE8227 A0732774

How to use this manual

This manual is organized with Chapters 1 through 6 providing a guide to SCI concepts and use. Chapter 7 is a quick reference to all SCI options.

- Chapter 1, “Introduction,” explains how to access the SCI and includes a description of each of the SCI menus.
- Chapter 2, “Configuring trunk interfaces and resources,” explains when to reconfigure the system and describes the various system parameters that can be modified, whether you are modifying T1 span and trunk information or changing the characteristics of installed options (for example, fax, automatic speech recognition, and TTS).
- Chapter 3, “Installing software on the MRS,” discusses the installation of software on your OPEN IVR system.
- Chapter 4, “File management,” describes the file system on the MRS and the different SCI utilities you can use to manage voice, ASCII text, and fax files.
- Chapter 5, “License manager,” describes how to manage the various system licenses.

- Chapter 6, “Setup menu,” describes how a user with service access privileges can add/remove hardware and software resources in the system.
- Chapter 7, “Command reference,” describes each of the SCI menu options. It is organized by menus and submenus, with option entries included in the order that they appear on the menu. Each option entry identifies the menu in which it resides and its function, and includes comments about its use and sources of related information. Examples are also included.
- Appendix A, “System prompts,” lists the standard system prompts accompanying your MRS.
- Appendix B, “Memory maps, I/O addresses, and interrupts overview,” provides overview information on memory map and interrupt configurations for Symposium OPEN IVR systems.
- Appendix C, “ACD Logon/Logoff support,” describes how your MRS can support calls from an Automatic Call Distributor phone system.
- Appendix D, “Trunk type file parameters,” describes how to set trunk type definitions.

  Note: The system configurations included in the examples in this manual illustrate the use of SCI commands. Because system configurations often vary, these examples may not accurately depict your specific system configuration. In particular, listings will differ according to the bus environment—SCbus or PEB.

Conventions used in this guide

Throughout this guide, several typographic conventions have been used to highlight certain types of information:

- Items that appear on the screens are identified in quotes, for example: the “Timeout” part of the parameters window
- Field names, prompts, file and menu names, directories, accounts, and options are shown in a different typeface, for example:

  ```
  /sci>
  sci/install menu
  /u/nortel/3270/getbalance.act file
  ```

- Buffer names are shown in all uppercase characters, for example:
  the CURRENT MESSAGE buffer
- Items you must type are shown in bold in a different typeface, for example:
  at the prompt, type **`tn5250`**
- Variables shown in command lines appear in italics, for example:
  the `host_cfg`*n* file, where *n* is a variable representing a board number
- Key names you press are shown in angled brackets, for example:
  the <F1> key
- Keyboards usually have keys named <Return> or <Enter> that perform the same function. For convenience, this guide uses the keyname <Enter> to represent both keynames.

Chapter 1: Introduction

The Service Console Interface (SCI) is a menu-driven interface that you can use to manage your Multimedia Resource Server (MRS) system components, monitor system activity, and run system diagnostics. This chapter presents an overview of the SCI with a description of each of the SCI menus and submenus, including:

- SCI-restricted access
- accessing the MRS
- logging in to the SCI
- remote access using a modem
- reinitializing the system
- changing SCI account passwords
- quitting your SCI session

SCI-restricted access

Service Console functionality is partitioned into different levels of access: `service`, `admin`, and `user`. This partitioning allows you to restrict access to SCI features and prevent unauthorized personnel from disrupting normal system operation.

service

The `service` account has the most privileges. By logging in to the `service` account, technical personnel who have completed the Nortel service and maintenance training course can access the SCI with maintenance-level privileges.

> ***Note:*** The `service` account has privileges of `admin` plus the `setup` menu option. Only trained service personnel should log in as `service`.

```
config       - Display & modify system configuration parameters.
setup        - Display & modify the current hardware setup.
log          - Display the system event log.
files        - Perform file management functions.
status       - Perform system status functions.
reset        - Perform a full MRS reset.
install      - Perform software installation functions.
diag         - Perform system diagnostics functions.
admin        - Perform account administration functions.
maint        - Perform system maintenance functions.
quit         - Log out of the service console.
```

admin

On-site system administrators can log in to the `admin` account to access the administration level for managing day-to-day operation of the MRS.

> ***Note:*** The `admin` account has all the privileges of `user` plus access to the `reset`, `install`, and `diag` menu items. Mistakes made while logged in as `admin` could disrupt calls.

The `admin` account has access to the following menu items:

```
config       - Display & modify system configuration parameters.
log          - Display the system event log.
files        - Perform file management functions.
status       - Perform system status functions.
reset        - Perform a full MRS reset.
install      - Perform software installation functions.
diag         - Perform system diagnostics functions.
admin        - Perform account administration functions.
maint        - Perform system maintenance functions.
quit         - Log out of the service console.
```

user

Users who only need to check the system status or are involved in the daily operation of the MRS can log in to the `user` account, which accesses the System Status level with the least privileges.

> ***Note:*** The `user` account has very low privileges (for example, monitoring). Logging in as `user` does not allow you to directly alter files.

The user account has access to the following menu items:

```
config       - Display & modify system configuration parameters.
log          - Display the system event log.
files        - Perform file management functions.
status       - Perform system status functions.
admin        - Perform account administration functions.
quit         - Log out of the service console.
```

To use the SCI, you must log in to one of these valid SCI accounts by using a terminal directly connected to the MRS, modem communication over a telephone line, or an X-terminal over the local area network to which the MRS is connected.

WARNING

Risk of system interruption and data loss

The nortel and root accounts have the same privileges as the service account, plus nortel has access to all nortel files, and the root account, which is the most powerful, has no restrictions and has access to all levels of the OPEN IVR system. Mistakes made when logged in as nortel could be dangerous to OPEN IVR integrity. Mistakes made when logged in as root could be dangerous to operating system integrity.

SCI login account passwords

There are three SCI login accounts: service, admin, and user plus the nortel and root accounts. Each account enables access to the SCI with a different level of privileges. Table 1-1 lists these accounts and the default passwords.

Table 1-1: Accounts and passwords

Application Processor		MRS/AP		MRS/Rack or Tower	
User ID	**Password**	**User ID**	**Password**	**User ID**	**Password**
		user	user1	user	user1
		admin	admin1	admin	admin1
		service	service1	service	service1
nortel	nortel1	nortel	nortel1		
root	root1	root	root1	root	root1

Note: The password to the `service` account should be provided only to qualified personnel.

Accessing the MRS

To access the SCI, you must first connect to the MRS to access the SCI login prompt. You can do this locally by connecting a terminal directly to your MRS, or remotely either by using a modem and dialing up the MRS or by using the `telnet` command to connect over a local area network from an AP or X-terminal. This section describes each of these procedures.

Note: If you are using an MRS/AP system, you can simply log in to one of the SCI accounts as described in "Accessing the SCI on an MRS/AP" later in this chapter.

Local access

You can access the SCI locally by connecting a video terminal directly to your MRS and logging in. Connect the terminal to the appropriate COM Port (a 9-pin, subminiature D-connector) on your MRS. If necessary, refer to the corresponding documentation found in the *Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide*.

Ensure that the terminal parameters are set according to the COM port on your MRS. The default values are listed in Table 1-2.

Table 1-2: Terminal default parameter values

Parameter	Default value
baud rate	2400 or 9600
duplex	Full
data bits	7
stop bits	1
parity	even
add LF	off

Note: The COM ports on your MRS are fully configurable by using the `/sci/config/system` menu options.

Once the terminal is connected, press <Enter>. The MRS displays the following message and the login prompt:

```
<system name>
Nortel Service Access Port      Revision 0
Copyright 1991-1997, Nortel Corp. All Rights Reserved
login:
```

You are now connected to the MRS and ready to log in to the SCI.

Remote access using a modem

Special modem instructions

To allow remote access for support and maintenance, a modem must be attached to your Symposium OPEN IVR system. To take advantage of this feature, you must attach the modem between your Symposium OPEN IVR system and the telephone network.

Nortel has tested and found the U.S. Robotics Sportster 9600/28.8/33.6 modems compatible.

Note: U.S. Robotics 14.4 modems are not compatible.

Domestic customers

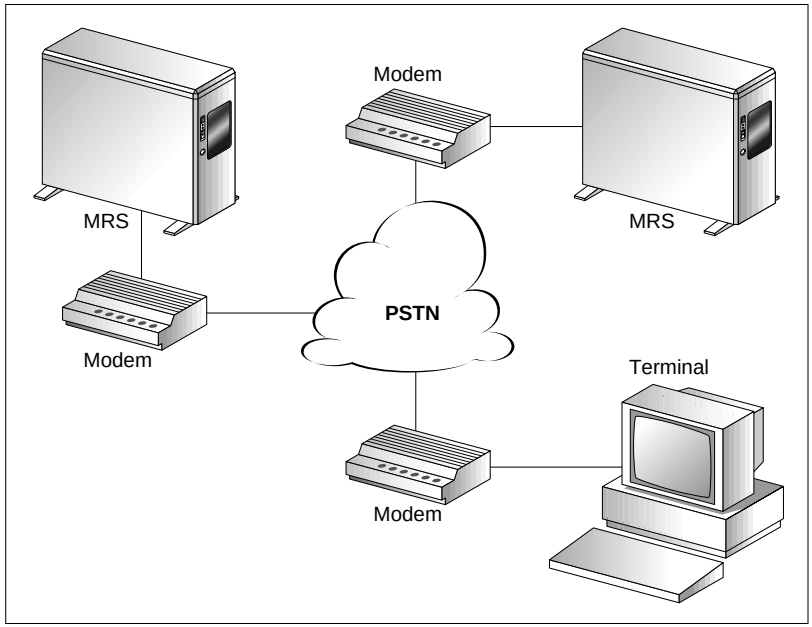
North American and some Caribbean and Latin American customers receive a modem with the Symposium OPEN IVR system.

International customers

Because of the different telephone network regulations throughout the world, international customers do not receive a modem with the Symposium OPEN IVR system. Nortel recommends that international customers consult their local telephone service provider to determine an appropriate modem (U.S. Robotics Sportster 9600/28.8/33.6 or equivalent) for their installation.

At no time should the modem be disconnected from the MRS unless a local terminal is connected for a short period of time to perform local diagnostics or maintenance. See Figure 1-1 for an illustration of MRSs connected to external modems.

Figure 1-1: MRSs connected to external modems



Dialing in to the MRS's external modem

Note: This procedure assumes that the external modem is already connected to your MRS. If not, refer to the Release 4.0 *Symposium OPEN IVR Installation, Upgrade, and Maintenance Guide*.

To access the SCI, follow these steps.

1 Dial in to the modem from the remote site and wait for an answer.

2 Once the modem is connected, press <Enter>.

A message similar to the following will be displayed:

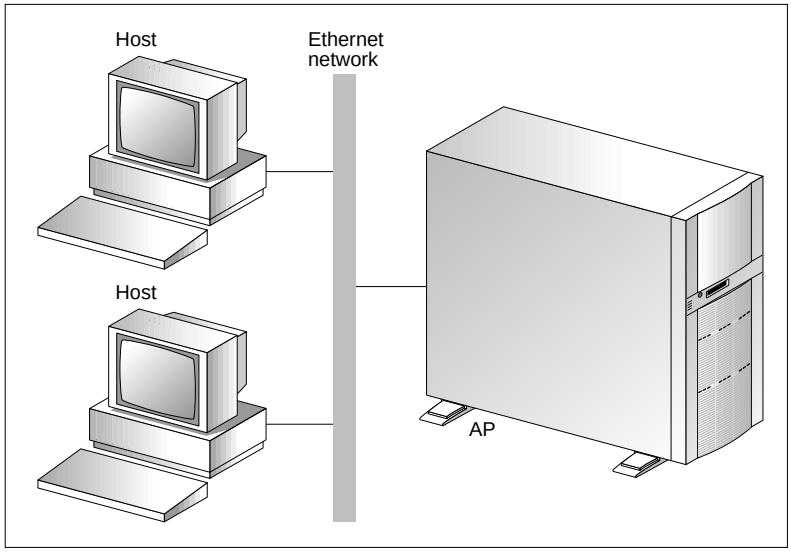
```
<system name>
Nortel Service Access Port    Revision 0
Copyright 1991-1997, Nortel Inc. All Rights Reserved
login:
```

You are now connected to the MRS and ready to log in to the SCI.

Remote access over a LAN

You can also access the SCI from an AP or X-terminal that is connected to the MRS over an Ethernet or Token Ring network. The network must support TCP/IP and telnet (or the rlogin UNIX command). Figure 1-2 illustrates the setup. You will need to know the MRS's Internet address or system name.

Figure 1-2: Accessing the SCI remotely over Ethernet



Accessing the SCI remotely over Ethernet

To access the AP remotely over Ethernet, follow these steps.

1 If the AP is an Xwindows-based UNIX workstation, access an xterm window.

2 At the system shell prompt, enter the **`telnet`** command, followed by the AP's Internet address or AP system name.

When the login prompt is displayed, you are now connected to the MRS and ready to log in to the SCI.

The following is an example using the MRS default Internet address:

```
$telnet 128.1.1.111
Trying 128.1.1.111...
Connected to 128.1.1.111.
Escape character is '^]'.
System V.4.0 UNIX (NTL00143.Nortel.com) (ttyp00)
login:
```

Accessing the SCI on an MRS/AP

The modem method and the telnet method can be used to access the SCI on an MRS/AP.

Also, if you have direct access to the console of the MRS/AP system, you can log in and access the SCI using these steps:

1. Press the <ALT>, <CNTRL>, and <F1> keys to access the command-line screen.
2. At the `login:` prompt, enter the appropriate account name. The passwords for these accounts are listed in “SCI login account passwords” on page 1-3.
3. After you log in, the system prompts you for your terminal type. If the default terminal type displayed is correct, press <Enter>; otherwise, type in the correct terminal type (for example, VT100 or ANSI).

   Note: If you log in as root, a # prompt is displayed. At the # prompt, type **`sci.start`** and press <Enter> to access the SCI menu.

Logging in to the SCI

To log in to the SCI, follow these steps.

1. At the prompt on the MRS console, log in to the SCI as `service`, `user`, or `admin`. (For information about these accounts, see “SCI-restricted access” on page 1-1.)

   During the login process, the system prompts you for your terminal type.

2 If the default terminal type displayed (VT100) is correct, press <Enter>; otherwise, type in the correct terminal type and press <Enter>.

Once you have successfully logged in, the MRS displays the Service Console Interface main menu as shown in the following example:

```
                    MRS Service Console
                  For MRS Revision 4.00

sci     : Revision 4.00.04

config    - Display & modify system configuration parameters.
setup     - Display & modify the current hardware setup.
log       - Display the system event log.
files     - Perform file management functions.
status    - Perform system status functions.
reset     - Perform a full MRS reset.
install   - Perform software installation functions.
diag      - Perform system diagnostics functions.
admin     - Perform account administration functions.
maint     - Perform system maintenance functions.
quit      - Log out of the service console.
/sci>
```

Note: When you enter an SCI menu, the SCI automatically displays menu options available for the current access level. This example lists all of the options that are available to the `service` account.

All of the options on the main menu, with the exception of `log`, `reset`, and `quit`, access submenus of related options. The `log` and `reset` options are commonly used functions and are listed on this menu for easy access.

SCI menus

When you access the SCI main menu or select an option that accesses a submenu, you access an environment in which you can enter any of the available menu options.

Initially, the list of options is displayed, followed by the SCI prompt. As you enter different options, the list of menu options is no longer displayed after each transaction. However, the SCI prompt clearly indicates the environment in which you are operating. For example, if the prompt is `/sci`, you are in the main menu environment. Selecting the `config` option from the main menu accesses the `/sci/config` menu. Until you quit this environment, the SCI displays the prompt as:

```
/sci/config>
```

As you use the SCI, you can redisplay the current menu at any time by typing

`help``<Enter>`

Selecting menu options

You can select any menu option by typing the complete name or the least number of letters that uniquely identify the command on the current menu. For example, to select the `list` option from the `/sci/config` menu, type either **`list`** or **`l`**, then press <Enter>.

Menu options are essentially commands. Command syntax may include one or more arguments. If so, and you enter the command without a value for the argument(s), the SCI will prompt you for an appropriate value. If you respond by pressing <Enter>, the SCI assumes that you want to use the default value.

You can enter numerical input using decimal or hexadecimal notation. The hexadecimal representation should be preceded by the characters 0x. For example, you can enter the number 32767 in decimal as 32767 or hexadecimal as 0x7fff.

Viewing data

If you select an option that displays more data than will conveniently fit on one screen, the SCI displays the data one screen at a time using a mechanism based on the UNIX `pg` command. You can use the screen display commands listed in Table 1-3.

Table 1-3: Viewing multiple screens of data

Command	Action
<Enter>	Displays one additional page
q <Enter>	Quits viewing the data

Table 1-3: Viewing multiple screens of data

Command	Action
number<Enter>	Skips ahead specified number of lines
/ string /<Enter>	Skips ahead to the first occurrence of the string specified
^ string ^<Enter>	Skips backward to the first occurrence of the string specified
$<RETURN>	Skips to the end and displays the last page

Reinitializing the system

While using your MRS, you may need to reinitialize the system. The `reset` option on the `/sci` menu simply resets MRS software and then restarts all MRS processes. To download firmware to all boards installed in the system and reset MRS software, select the `download` option from the `/sci/maint` menu. To reboot the entire system (that is, both MRS and UNIX), select the `restart` option on the `/sci/maint` menu.

The `reset` process requires about 20 seconds to complete, whereas rebooting the system using `restart` takes approximately five minutes to complete.

Changing the SCI account password

Depending on your access privileges, you can change the password for the current account and other accounts. If you logged in to the SCI as the `service` account (or with `service` account privileges), you can change the password of `service`, `admin`, and `user` accounts. The `admin` account can change the password of `admin` and `user` accounts, whereas the `user` account can change the password of the `user` account only.

WARNING
Risk of data loss

If you intend to change a password, be sure that no other user is currently logged in to the SCI.

Installing a new version of MRS software resets all account passwords back to the original defaults.

To change an MRS account password, follow these steps.

1 At the /sci/admin> prompt, type **pass** and press <Enter>.

The system displays the following:

```
************************************************
WARNING - Executing this option temporarily locks
the passwd facility. No other users should attempt
to log in during this procedure.
************************************************
Are you sure you wish to continue?
Current continue?  = no
yes - Continue with operation.
no - Return to previous menu.
  continue?  =
```

2 At the continue? prompt, type **yes** and press <Enter>.

The system displays the following:

```
Select the account to change password?
Current Account?  = service
service- Service Personnel Account.
admin- Site Administrator Account.
user- General Access Account
                  Account?  =
```

3 At the account? = prompt, type the name of the account you want to change the password for and press <Enter>. (In this example, the user account is used.)

The system displays the following:

```
Setting password for user: user
Last successful password change for user: Thu Feb
20 09:13:20 1998
   Choose password

You can choose whether you pick your own password,
or have the system create one for you.

  1. Pick your own password
  2. Pronounceable password will be generated for
you
Enter choice (default is 1):
```

4 At the prompt, type **1** to choose a password yourself, or type **2** to have a password generated for you; then press <Enter>.

The system displays the following:

```
Please enter new password
New password:
```

5 At the prompt, type a new password and press <Enter>.

The system displays the following:

```
Re-enter password:
```

6 At the prompt, reenter the new password and press <Enter>.

The password is changed.

Ending the SCI session

When you are done using the SCI, return to the `/sci` main menu and select the `quit` option to log out of the SCI.

Chapter 2: Configuring trunk interfaces and resources

Overview

As you use your MRS, you may find that you need to add or remove functionality for your particular operating environment. The SCI includes options that you can use to view and modify the MRS system configuration. However, before you can change the configuration, you need to be familiar with the various system parameters that affect operation of the system. This chapter discusses system configuration information such as

- when you should reconfigure the system
- what you should reconfigure
- why you would enable or disable a feature
- how you change configuration parameters
- when your changes take effect
- how you activate or deactivate system modules

When to change the configuration

After you have been using your MRS, your processing needs may change. You may want to add different options that were not included with your original order. For example, you may want to add the Fax, Speech Recognition, and Text-to-Speech (TTS) options. Or, maybe you need to add support for more trunk channels. Whenever you need to change the resources available to your MRS, you will need to reconfigure the system.

What to reconfigure

If you select the `list` option from the `/sci/config` menu, the SCI displays the current MRS configuration. The configuration settings consist of system, volume, trunk, and T1/E1 span information, as well as parameters associated with installed MRS options (for example, Fax, Speech Recognition, and Text-to-Speech options).

The following example illustrates a sample system configuration. This section explains this information in further detail. Keep in mind that this configuration is an example of a specific installation and will probably differ from your actual MRS configuration.

```
/sci/config> list
SYSTEM INFORMATION
   System Bus Type = SCBUS
   Sysgen File Version = 4.00
   Sample Rate = 32k
   Application Processor Link = auto
   A.P. Link Com Port Used = /dev/tty2a
   A.P. Link Failure Mode = none
   Current COM1 (/dev/tty1a) settings = 9600,7e1
   Current COM2 (/dev/tty2a) settings = 9600,7e1
   Duplicate Error Log Path = /dev/null
   SNMP Service Flag = off
   Default Tail Erase [msec] = 250
   Maximum Record Length [Minutes] = 15
   Minimum Valid Voice [msec] = 250
   Severity Level =

VOLUME INFORMATION
   VOLUME 1  Total Capacity = 14.0MB
   VOLUME 2  Not Formatted or Not Present
   VOLUME 3  Not Formatted or Not Present
   VOLUME 4  Not Formatted or Not Present

TRUNK INFORMATION
   TRUNK GROUP 1 Channels 0 to 3 SCBUS Loop-B a-law

RECOGNIZER INFORMATION
   ANTARES BOARD NUMBER = 1
   Clock speed = 50 MHz
   Base IO address = 0x210
   Data encoding = A_Law
   Number of DSPs configured = 4
   Number of recognizers configured = 4
   DSP 1  PureSpeech English ASR       1 ports
      VOCAB IDS: 0 99
```

```
DSP 2  PureSpeech English ASR      1 ports
     VOCAB IDS: 0 99

DSP 3  PureSpeech English ASR      1 ports
     VOCAB IDS: 0 99

DSP 4  PureSpeech English ASR      1 ports
     VOCAB IDS: 0 99
```

System information

The system information in the previous example identifies general system characteristics. Each of these are described in this section. Each parameter identifies valid values and the factory-shipped setting.

Sample Rate

Valid values: 24 or 32 kbit/s

Factory-shipped: 32 kbit/s

Controls the sampling rate (in kilobits per second) of the digitized voice signal after compression. A rate of 32 kbit/s has superior quality but requires 25 percent more storage space than 24 kbit/s. This parameter applies only to the sampling rate that will be used to record voice messages. When the MRS plays recorded messages, the sampling rate previously used for the recording will automatically be selected for each voice message.

Application Processor Communications Link

Valid values: comport, ethernet, autosense

Factory-shipped: autosense

Sets the link through which the MRS will accept commands from the AP (for example, Nortel's Symposium OPEN IVR software commands) to either RS-232-C communications or the Ethernet interface. This parameter must be set properly, or the AP will not be able to communicate with the system. If this parameter is set to autosense, the system will automatically select the type of communication (Ethernet versus RS-232) based on the type of communication available from the AP.

AP Link Failure Mode

Valid values: none, busyout, announce

Factory-shipped: none

Defines the system behavior in the case that communication with the AP is abruptly lost. This behavior does not take effect if the AP gracefully shuts down or was never connected in the first place. The following options are available:

none	Do nothing—ignore all new calls. Calls will get a ring-no-answer.
busyout	Busy out all trunks so that no new calls are received.
announce	Once the MRS detects that communication is disrupted, it runs the embedded auto-announce application, which automatically answers all calls and informs the caller that the system is temporarily out of service.

COM port settings (COM1 and COM2)

Baud rate

Valid values: 38400, 9600, or 2400 bps

Factory-shipped: 38400 bps

Data bits

Valid values: 7, 8

Factory-shipped: 8

Parity

Valid values: even, odd, none

Factory-shipped: none

Stop bits

Valid values: 1, 2

Factory-shipped: 1

Each COM port is configurable. These parameters allow you to modify the current values for the available COM ports.

Fax SID

Valid values: up to 10 characters

Factory-shipped: 0123456789

This parameter is displayed only if the Fax option is installed. This sets the sender ID (SID) for use when sending faxes. The SID is a tag that identifies the party who sent a fax. This is useful when a bad transmission requires that a retry be attempted.

SNMP Service Flag

Valid values: on or off

Factory-shipped: off

This parameter determines whether SNMP management functions are supported.

Default Tail-End Erase

Valid values: 10 to 10 000 milliseconds

Factory-shipped: 250 msec

Controls the tail-end erase value for newly recorded prompts or messages in the system. The tail-end erase value defines the amount of voice data that is discarded from the end of a recorded message. The purpose is to eliminate the presence of a dial tone or a DTMF digit that might have been used to terminate the record process.

> ***Note:*** If the length of the message is less than the specified tail-end erase value, the tail-end erase function is not performed.

Maximum Recording Length

Valid values: 1 to 10,000 minutes

Factory-shipped: 15 minutes

Sets the maximum amount of time that any one continuous record or append operation may run. This parameter is a safety feature to prevent accidental unlimited growth of a file.

Minimum Valid Voice Duration

Valid values: 10 to 10 000 milliseconds

Factory-shipped: 250 msec

Sets the minimum duration of voice energy considered to be a valid utterance (that is, grunt) for voice confirmation.

Severity Level

Valid values: 0–4

Factory-shipped: 1

Displays the severity level threshold error messages. There are five different severity levels:

0 – Advisory

1 – Minor

2 – Major

3 – Critical

4 – Fatal

Each error message has a severity level associated with it. The severity level threshold is set with the OA&M facility.

Volume Information (voice storage)

The Volume Information identifies the virtual disks that are installed and identifies their total capacities for storing various voice, fax, and data files. See Chapter 4, “File management,” for further information about file management. In the previous example, volumes 1 is defined. If the disk mirroring option is installed, the MRS also has a copy, or mirror, of each of these volumes.

Trunk information

The trunk information describes the MRS’s interface to the telco network. All telco trunks (each trunk connects to a network interface channel on the MRS) are organized into trunk groups. The number of trunks/channels included in a trunk group varies according to the type of interface that is used. For simplicity, this section discusses working with an analog interface (such as loopstart) for which there are four channels per trunk group.

The SCI lists the group ID, the associated channels, the type of bus (SCbus or PEB) on which the group resides, and the type of signaling, or trunk type, that is being used.

For example, trunk group 1 corresponds to channels 0–3. These channels are connected to the bus (SCbus or PEB) and are defined as a specific type of trunk. Each trunk type is defined by a file containing a unique set of parameters that allows MRS hardware to connect to a particular type of telephone line. Your MRS already includes the most typical trunk type definitions, which contain parameter values required to connect to some of the most commonly used trunk interfaces. If necessary, you can create special trunk types based on your specific requirements. See “Modifying trunk type files” on page 2-27 of this chapter or contact your Nortel customer service representative.

Most trunk types support a particular hardware board or set of boards that connect to a particular type of telephone line with a specific set of options. When configuring a trunk group, the trunk type you select can be any that is applicable to the hardware on which the trunk group operates. Usually, there is only one trunk type that applies to the specific interface requirements of the device to which the telephone lines are being connected.

The MRS factory-shipped trunk types include those listed in Table 2-1.

Table 2-1: MRS trunk types

Trunk	Trunk Type/Protocol	Trunk File Name
Loopstart	Loopstart	loopst
	Loop-B	loopb
	LCO-Loopstart	intloopst
	ACD	m1-*X*acd
T1	T1-E&M	t1em
	T1-E&M-B	t1emb
	T1-W-ANI-E&M	t1wani
	T1-W-DNIS-E&M	t1wdnis
	T1-W-D-A-E&M	t1wda
	T1-W-E&M	t1wem
	Line side ACD (M1 only)	nt1-*X*acd
	Line Side T1 non ACD	nt-fxs-t1-ls
	AT&T	attg3fxsacd
	Rolm	rolmacdlog
	DMS 100	dms100
E1	Enhanced DPNSS	e1r216d
	Mexico, China, Malaysia,	e1r2

Note: Please note that the italicized uppercase *X* in the Trunk File Name denotes a variable.

Also available through Nortel are trunk type files for ADSI telephony interfaces. Each of these trunk types is briefly described in this chapter.

Loopstart

Supports installations with a 12- or 8-port LSI network interface and corresponding voice-processing module. This trunk type provides an interface to POTS (that is, Plain Old Telephone System) or Centrex loopstart lines, and is applicable to the loopstart line interface of most PBXs. This trunk type is appropriate when dial-tone detection is required to indicate network presence prior to both dialing and disconnect. If you are using D/121A Dialogic voice modules, you must select this trunk type.

Loop-B

This is the same as the loopstart trunk type, except this should be used when Dialogic D/121B voice modules are installed in your MRS.

ATTENTION

Be aware of the difference between D/121A and D/121B modules. When using a D/121A module, for any pair of frequencies that are less than 125 Hz apart, the MRS builds a simple tone template with tolerances covering the entire range. When using a D/121B module, the frequency difference can be as low as 62.5 Hz. Consequently, for detection of a dial tone (350 Hz + 440 Hz), the MRS creates a simple tone template when using a D/121A module, and a dual tone template when using a D/121B module.

If you are using D/121B module and a trunk type file for D/121A, or vice versa, any dual tones with a frequency difference less than 125 Hz and greater than 62.5 Hz will not be detected (for example, U.S. dial tone). The board type parameter specified in the trunk type file defines how the tone templates are created. Make sure that this parameter is set to 0 for D/121A modules and 1 for D/121B modules. (See “Working with trunk type parameters” on page 2-28 for more information.)

LCO-loopstart

Supports installations with a 12- or 8-port LSI network interface and corresponding voice-processing module, or a 4-port network interface card. The Loop Current Only (LCO) loopstart trunk type provides an interface to POTS or Centrex loopstart lines, and is applicable to the loopstart line interface of most PBXs. This trunk type is appropriate when dial-tone detection is not required or available to indicate both network presence prior to dialing and disconnect.

DID

Supports installations with a 12-port DID network interface and voice-processing module. This trunk type provides an interface to battery-reverse signaling DID lines and supports DNIS or ANI information using DTMF or MF signaling.

DID-Pulse

Supports installations with a 12-port DID network interface and voice-processing module. This trunk type provides an interface to battery-reverse signaling DID lines and supports DNIS or ANI information using DTMF and MF signaling. Dial pulse (rotary) detection during the call-setup phase (that is, before seizing the line) is also supported.

T1-E&M

Supports installations with 24-port T1 network interface and Dialogic D/121A voice-processing modules. This trunk type provides an interface to digital lines that emulates E&M signaling protocol and provides DNIS or ANI information. For inbound calls, this trunk type supports DTMF or MF signaling in immediate-start or delayed-start mode. During an outdial, this trunk type starts dialing as soon as network presence is detected.

T1-E&M-B

This trunk type is the same as T1-E&M but should be used when the Dialogic D/121B voice-processing module is installed in the system.

T1-W-ANI-E&M

Supports the E&M signaling protocol with Wink and ANI features. The trunk will respond to an inbound call with a wink (a supervisory signal that is sent to the switch indicating that the MRS is ready for input) and then expects to receive ANI (Automatic Number Identification) digits. The default is 10 digits. This can be modified in the trunk type file by changing the “set aninum=” parameter.

T1-W-DNIS-E&M

Supports the E&M signaling protocol with Wink and DNIS features. The trunk will respond to an inbound call with a wink and then expects to receive DNIS (Dialed Number Identification Service) digits. The default is four digits. This can be modified in the trunk type file by changing the “set dnisnum=” parameter.

> ***Note:*** When waiting for ANI or DNIS digits, the trunk will wait according to the “pre-dial timeout” and “interdigit” parameters set in the trunk type file. If either of these times expires before digits are received, the call will be terminated and any gathered information will be passed to the application.

T1-W-D-A-E&M

Supports the E&M signaling protocol with Wink and DNIS and ANI features. The trunk will respond to an inbound call with a wink and then expects to receive DNIS and ANI digits.

T1-W-E&M

Supports the E&M signaling protocol with the Wink feature. The trunk will respond to an inbound call with a wink and then answer the call without looking for any ANI or DNIS digits.

You can create additional trunk types to support other interface modules and telephone network features. If you need help, contact Nortel customer service.

> ***Note:*** In some cases, loading MRS option packages may include additional trunk types. Refer to the accompanying option guide for a description of the new trunk types.

More about the T1 network interface

If your MRS system includes a T1 interface, you can reconfigure the parameters associated with each T1 span. A T1 span provides the interface to DSX1 (Digital Signal Cross Connect Level 1) and voice-processing modules supporting 24 channels. Each of the T1 span parameters is described below.

Cable length

Valid values: 133, 266, 399, 532, 665 feet

Factory-shipped: 133 feet

Specifies the length in feet of the T1 cable between the MRS and the Channel Service Unit (CSU). This information is required for proper pulse shaping during transmission.

Protocol Type – valid values: ami, bit7, b8zs

Factory-shipped: bit7

Identifies the T1 protocol to be used. The MRS supports standard D3/D4 framing, Alternate Mark Inversion (AMI), AMI with bit7 stuffing, and B8ZS (binary 8 zero suppression). This parameter should be set to match the protocol used by the characteristics of the T1 equipment to which the MRS is interfaced.

Note: Extended Superframe (ESF) format is not supported.

ami Standard AMI encoding.

bit7 AMI encoding with the seventh bit of each frame forced high to prevent continuous zero transmission, which can cause slips in synchronization.

b8zs This protocol uses binary 8 zero suppression encoding to prevent continuous zero transmission, which can cause slips in synchronization.

Synchronization – valid values: slave, master, resource

Factory-shipped: slave

Defines the source of the clock. Three synchronization modes are supported:

slave This is the most common mode, where the T1 interface card extracts clock from the T1 network.

master — The clock is provided by the T1 interface module, and is independent of the network. Typically used for testing.

resource — The clock source is determined by the resource module in the system which currently controls the transmit path. This may be required with certain MRS option packages (for example, the Fax option) to enable proper synchronization.

E1 network interface

Supports installations with a central office or PBX-supplied E1 digital interface line (standard 75-ohm E1 interface or optional 120-ohm country-specific). Each E1 span supports 30 channels and requires 4 D/81A voice-processing modules. The E1 interface supports the MF R2 signaling convention, which acknowledges, by means of MF tones, each signal received over E1 lines between the central office switch and the MRS. Because this protocol varies slightly from country to country, some modifications may be necessary to adhere to the standards of the installing nation.

The standard MRS trunk-type file configuration currently supports these E1 CAS MF R2 protocols:

- Telmex protocol for Mexico
- China #1 signaling
- Malaysia (Singapore)

ISDN PRI

The SCI supports several protocols for the ISDN Primary Rate Interface (PRI). Table 2-2 lists E1-based ISDN PRI protocols. Table 2-3 lists North American (T1-based) ISDN PRI protocols.

Table 2-2: E1-based ISDN PRI protocols

PRI ISDN protocol	Country	Description
ETS300	Euro ISDN (most of Europe)	Supports incoming/outgoing calls with ANI (CLID) and DNIS. Emulates user- or network-end. Supports outgoing calls with the capability to send the calling party ID.
Enhanced DPNSS		Supports incoming/outgoing calls, CLI and DNIS, call conferencing, passing call diversion information to the application, and passing line ID to the application.
1TR6	Germany	Supports incoming/outgoing calls with ANI (CLID) and DNIS. Emulates user- or network-end. Supports outgoing calls with the capability to send the calling party ID.
DASS2	United Kingdom	Supports incoming/outgoing calls with ANI (CLID) and DNIS. Emulates user- or network-end. Supports outgoing calls with the capability to send the calling party ID.
VN3	France	Supports incoming/outgoing calls with ANI (CLID) and DNIS. Emulates user- or network-end. Supports outgoing calls with the capability to send the calling party ID.

Table 2-3: North American ISDN PRI protocols

PRI ISDN protocol	Description
4ESS	Emulates AT&T 4ESS switch. Supports incoming/outgoing calls with ANI and DNIS. Transfer capability includes: speech, udigital, rdigital, 3.1 or 7 kHz audio, and video.

PRI ISDN protocol	Description
5ESS	Emulates AT&T 5ESS switch. Supports incoming/outgoing calls with ANI and DNIS. Transfer capability includes: speech, udigital, rdigital, 3.1 or 7 kHz audio, and video.
DMS/100	Emulates Nortel DMS/100 switch. Supports incoming/outgoing calls with ANI and DNIS. Transfer capability includes: speech, udigital, rdigital, 3.1 or 7 kHz audio, and video.
DMS/250	Emulates Nortel DMS/250 switch. Supports incoming/outgoing calls with ANI and DNIS. Transfer capability includes: speech, udigital, rdigital, 3.1 or 7 kHz audio, and video.
NTT(INS1500)	Emulates AT&T 4ESS switch. Supports incoming/outgoing calls with ANI and DNIS. Transfer capability includes: speech, udigital, rdigital, 3.1 or 7 kHz audio, and video.

Note: Each of the protocols specified in Tables 2-2 and 2-3 is loaded on your MRS from CD-ROM or DAT tape. For E1-based ISDN PRI, access the `country` option from the `/sci/maint/params` menu to specify the appropriate information to configure the protocol for your installation.

ADSI

Supports the Analog Display Services Interface (ADSI). ADSI is an in-band signaling protocol recently developed by Bellcore for interface to display-based telephones.

ADSI presents a better human interface than the existing voice-processing applications, as it eliminates the need to memorize menu choices. The user can then absorb the screen information while listening to voice overviews and instructions included in your application.

In a typical ADSI application, the MRS transmits information that is displayed on a special, screen-based telephone. This special phone is a basic 2500 set with a simple character display screen and user-programmable softkeys. The caller connects the phone to the existing analog network service. By using the phone's soft keys, the user can respond to the screen information sent by the MRS. The screen text can supplement or replace the traditional voice prompt menus offered by traditional IVR applications.

Note: To enable a trunk type to support ADSI-based telephones, set the "hasadsi" parameter to 1 in the corresponding trunk type file. (See "Working with trunk type parameters" on page 2-28 for more information.)

Switching option

In the SCbus environment, all resources are shared across all channels in the MRS. PEB is not supported.

Switching mode

Valid values: system

Factory-shipped: system

Enables switching between calls across the system.

system	Provides switching across any two channels.
peb	Not supported.

Text-to-Speech

If your MRS includes the Text-to-Speech (TTS) option, the SCI will include specific information about its configuration, such as the base I/O address, the bus to which it is attached, and whether or not the TTS ports are enabled.

There are two ways to access information about the TTS board: select the `/sci/config/list` option or the `/sci/setup/options/hwsetup` (or `/sci/setup/hwsetup`) option.

For example, the following example shows information about the TTS configuration retrieved by entering the `/sci/setup/hwsetup` command. It lists the configuration with a TTS module installed as board 1 on SCbus 0. This board has four DSPs, each capable of handling four TTS channels. Mu-law encoding is used. As you can see, each of the DSPs on the board are enabled with the English vocabulary.

```
/sci/setup> hwsetup
   UPS Option = disabled
   Disk Mirroring Option = disabled
   CCS Option = disabled
   Number of Trunks per DCM = 3
   Dialogic xfer buffer size = 16K buffers
   Busyout Replies = enabled
   Ring Detection Reply = Auto Detection
   Wink Bit Mask = 0x11

TRUNK GROUPS INSTALLED
   trunk group 1 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group 2 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group 3 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group 4 at I/O 000 RAM D0000 type d160sc-ls on SCBUS

TTS BOARDS/DSPs INSTALLED
   ANTARES 1 DSP 1 Centigram English TTS            2 ports
   ANTARES 1 DSP 2 Centigram English TTS            2 ports
   ANTARES 1 DSP 3 Centigram English TTS            2 ports
   ANTARES 1 DSP 4 Centigram English TTS            2 ports
```

Fax

If your system includes the Fax option, the SCI will include specific information about the option configuration. When you list the system configuration using the `list` option from the `/sci/config` menu, the SCI includes a section called “Fax Information.” This section specifies the number of fax boards that are installed, and for each board, indicates whether or not the board is enabled and the port parameter values. Each of these parameters is described in this section.

Port status

Valid values: enabled, disabled

Factory-shipped: enabled

Enables or disables the corresponding port.

Receive resolution

Valid values: dpi100, dpi200

Factory-shipped: dpi200

Defines the resolution, in dots per inch, at which received fax transmissions will be stored.

Receive Imagewidth

Valid values: a4width, a3width, b4width

Factory-shipped: a4width

Defines the image width to be applied to fax documents that are received.

a4width – A4 width format

a3width – A3 width format

b4width – B4 width format

Receive Imagelength

Valid values: a4length, b4length, unlimited

Factory-shipped: unlimited

Defines the image length to be applied to fax documents that are received.

a4length – A4 length format

b4length – B4 length format

unlimited – unlimited length

Speech Recognition

If the Speech Recognition option is installed in your MRS, the SCI will include specific information about the option configuration. The Recognizer Information in the example on page 2-2 indicates that one recognizer board is installed and set for discrete speech detection. For each recognizer board, you can specify parameter values for each DSP. Each recognizer parameter is described in this section.

Recognizer Status

Valid values: enabled, disabled

Factory-shipped: enabled

Disables or enables the corresponding ASR resources on the SCbus or PEB bus.

Recognizer Mode

Valid values: continuous, discrete, none

Factory-shipped: continuous

Sets the DSP to detect continuous or discrete speech.

Changing configuration parameters

You can change configuration parameters by selecting the corresponding option from the `/sci/config` menu below. For example, to change the system parameters you would select the `sys` option; to change the parameters associated with the installed Fax option, you would select the `fax` option.

```
/sci> config
list      - List the current configuration parameters.
sys       - Modify system parameters.
path      - Modify path parameters.
t1span    - Modify T-1 span parameters.
gcspan    - Modify Global Call span parameters.
e1span    - Modify E-1 span parameters.
trunk     - Modify trunk group parameters.
fax       - Modify fax port parameters.
snmp      - Perform SNMP management functions.
done      - Save changes and return to previous menu.
cancel     - Return to the previous menu without saving changes.
```

If multiple boards are associated with the option installed in the MRS, the SCI will prompt you to identify the board to be reconfigured. For example, listing the system configuration indicates that fax boards 1 and 2 are installed in the system. When you select the `fax` option and the SCI prompts you to identify the board to be reconfigured, you can respond with either **`1`** or **`2`**.

> ***Note:*** If you need to modify the hardware setup of your MRS (for example, add boards), contact your Nortel service representative.

Modifying system information

To modify system parameters, select the `sys` option from the `/sci/config` menu. The SCI displays the current value for each parameter, one at a time, and prompts you to enter a new value. If you respond by simply typing <Enter>, the SCI accepts the default value. When you have entered a value for each system parameter, the SCI redisplays the `/sci/config` prompt. The following example illustrates this progression. (See Chapter 7, “Command reference,” for further information about system parameters.)

```
/sci/config> sys
Current Sample Rate = 32k
24k       - 24 kb/s Sampling Rate
32k       - 32 kb/s Sampling Rate
default    - 32 kb/s Sampling Rate
  Sample Rate =
Current Application Processor Link = auto
auto       - Autosense link to use
comport   - Use the RS-232 link only
ethernet   - Use the ethernet link only
default    - Autosense link to use
  Application Processor Link =
Current A.P. Link Failure Mode = none
announce   - An announcement will be played upon A.P. failure.
busyout     - All trunks will be busied out upon A.P. failure.
none       - No action will be taken upon A.P. failure.
  A.P. Link Failure Mode =
Current COM1 (/dev/tty1a) settings: 9600,7e1
Do you wish to change COM1 settings
Current continue? = no
yes       - Modify settings.
no        - Do not modify settings.
  continue? = yes
Current Baud Rate = 9600
2400     - 2400 Bit per second baud rate
9600     - 9600 Bit per second baud rate
default   - 9600 Bit per second baud rate
  Baud Rate = 2400
Current Data Bits = 7
7        - 7 Data Bits
8        - 8 Data Bits
default   - 7 Data Bits
  Data Bits = 8
Current Parity = e
e        - Even Parity
o        - Odd Parity
n        - No Parity
default   - Even Parity
  Parity = n
Current Stop Bits = 1
1        - 1 Stop Bits
2        - 2 Stop Bits
default   - 1 Stop Bits
  Stop Bits = 1
Current COM2 (/dev/tty2a) settings: 9600,7e1
Do you wish to change COM2 settings
Current continue? = no
yes       - Modify settings.
no       - Do not modify settings.
```

```
   continue? = no
Default Default Tail Erase [msec] = 250
   Default Tail Erase [msec] =
Default Maximum Record Length [Minutes] = 15
   Maximum Record Length [Minutes] =
Default Minimum Valid Voice [msec] = 250
   Minimum Valid Voice [msec] =
```

Changing T1 span information

By using the `t1span` option, you can edit or list parameters for a specific T1 span. When you select the option, the SCI prompts you to identify the T1 span to be manipulated:

```
Please Enter the T1 span to edit =
```

Type a number from 1 to 8 and press <Enter> to identify the T1 span to be viewed or modified. Span 1 corresponds to T1 channels 0 through 23. Span 2 is associated with T1 channels 24 through 47. The SCI displays the `/sci/config/t1span` menu as shown in the following example:

```
/sci/config> t1span
Please Enter the T-1 span to edit = 1
edit  - Modify parameters for this T1 span.
list  - List parameters for this T1 span.
done  - Cancel this operation.
/sci/config/t1span>
```

Use the `list` option to list the current parameters for the selected T1 span. The `edit` option allows you to modify the current parameter values. SCI displays the default value and valid values for each T1 span parameter, and then prompts you to enter a new value. Press <Enter> to accept the default value. The following example illustrates the use of these options:

```
/sci/config/t1span> list
T-1 SPAN 1 SYNC slave Protocol bit7 Cable Length 133
/sci/config/t1span>
/sci/config/t1span> edit
Default Cable Length = 133
133       -  0í to 133í cable
266   - 133í to 266í cable
399   - 266í to 399í cable
533   - 399í to 533í cable
655   - 533í to 655í cable
default - 0í to 133í cable
      Cable Length =266
Current Protocol Type = bit7
bit7  - Use AMI with bit7 stuffing
```

```
ami   - Use transparent AMI
b8zs  - Use B8ZS code suppression
default - Use AMI with bit7 stuffing
      Protocol Type=ami
Current Synchronization = slave
slave  - Extract clock from T-1 linere
source - Allow resource boards to control clocking
master - Use the internal clock
default - Extract clock from the T-1 line
Synchronization =
/sci/config>
```

When you have finished entering values for the parameters, the SCI returns to the `/sci/config` menu environment.

Note: When editing the T1 span configuration, care must be taken in identifying the master/slave/resource (for example, with T1 modules).

In an SCbus environment, the network cards are configured as follows:

- D/160SC-LS - first card master, remaining resource
- D/41ESC - first card master, remaining resource
- D/240SC-T1 - first card slave, remaining resource

In a PEB environment, a network interface board on one PEB can be configured as the master, and a board on another PEB can be configured as the slave.

Modifying the ISDN PRI configuration

If you have the ISDN PRI option installed on the MRS, you can reconfigure this option by accessing the `/sci/config/gcspan` menu. From this menu, you can list or edit the current parameter values. The following example modifies the parameter values for ISDN PRI span 1. For further information about these parameters, see Chapter 7, “Command reference.”

```
/sci/config> gcspan
Please Enter the PRI span to edit = 1
edit - Modify parameters for this PRI span.
list - List parameters for this PRI span.
done - Cancel this operation.
/sci/config/gcspan> edit
Please Enter the PRI span to edit = 1
The T-1 span specified does not exist
```

```
Former example:
Current Switch type = 4ESS
4ESS    - 4ESS Switch
5ESS    - 5ESS Switch
DMS     - DMS/250 or DMS/100 Switch
NTT     - NTT (INS1500) Switch
NT     - Network Termination
default   - 4ESS Switch
      Switch type =
Current Transfer Capability = speech
speech   - Speech Bearer Capability.
udigital  - Unrestricted Digital Capability.
rdigital  - Restricted Digital Capability.
3.1KHzAudio - 3.1KHz Audio Capability.
7KHzAudio  - 7KHz Audio Capability.
video    - Video Capability.
default   - Speech Bearer Capability
      Transfer Capability = speech
Current Transfer Mode = circuit
circuit   - info transfer mode - circuit mode.
packet   - info transfer mode - packet mode.
default   - info transfer mode - circuit mode.
      Transfer Mode =
Current Transfer rate = 64KBPS
64KBPS   - B_CHANNEL_UNITS 1X64.
128KBPS   - Non-standard 2X64.
384KBPS   - H0_CHANNEL_UNITS 6X64.
1536KBPS  - H11_CHANNEL_UNITS 24X64.
1920KBPS  - H12_CHANNEL_UNITS 30X64.
default   - B_CHANNEL_UNITS 1X64.
      Transfer rate =
Current Destination Number Type = national
national  - National number.
internationa- International number.
local    - Local number.
overlap   - Number is sent overlap.
en-bloc   - Number is sent en-bloc
default   - National number.
      Destination Number Type =
Current Destination Number Plan = telephony
telephony  - Telephony numb. plan E.163.
isdn    - ISDN numb. plan E.164.
private   - Private numbering plan.
unknown   - Unknown plan.
default   - Telephony numb. plan E.163.
      Destination Number Plan =
Current Facility Coding Value = megacom
megacom   - Service coding - MEGACOM.
```

```
sdn     - facility coding - SDN.
megacom800 - facility coding - MEGACOM 800.
wats    - facility coding - WATS.
tie     - facility coding - TIE.
accunet   - facility coding - ACCUNET.
long    - facility coding - Long distance.
int800   - facility coding - International 800.
catsc    - facility coding - CA TSC.
multiquest - facility coding - ATT MultiQuest.
default   - Service coding - MEGACOM.
      Facility Coding Value =
Current Bearer Capability Value = default
default   - User info layer 1 - Default Value
G711ULAW  - User info layer 1 - G.711 u-law
G711ALAW  - User info layer 1 - G.711 A-law
G721ADCPM  - User info layer 1 - G.721 ADCPM
G722F725  - User info layer 1 - G.722 and G.725
H261    - User info layer 1 - H.261
NONCCITT  - User info layer 1 - non-CCITT
CCITTV120  - User info layer 1 - CCITT V.120
CCITTX31  - User info layer 1 - CCITT X.31
default   - User info layer 1 - Default Value
      Bearer Capability Value =
/sci/config>
```

Modifying trunk configuration

Your system is configured with specific trunk types. Each of the available trunks is assigned a trunk type. You can enable or disable trunks, and list or change trunk type assignments. Before you can view or modify the current trunk configuration, you must first select a specific trunk group.

Trunks are configured in groups of four. For example, group 1 corresponds to trunks 0–3. A loopstart interface module supports 12 trunks. The SCI groups these trunks in three trunk groups.

To identify trunk groups, select the `list` option from the `/sci/config` menu.

```
/sci/config> list
SYSTEM INFORMATION
     System Bus Type = SCBUS
     Sysgen File Version = 4.00
     Sample Rate = 32k
     Application Processor Link = auto
     A.P. Link Com Port Used = /dev/tty2a
     A.P. Link Failure Mode = none
     Current COM1 (/dev/tty1a) settings = 9600,7e1
     Current COM2 (/dev/tty2a) settings = 9600,7e1
     Duplicate Error Log Path = /dev/null
     SNMP Service Flag = off
     Default Tail Erase [msec] = 250
     Maximum Record Length [Minutes] = 15
     Minimum Valid Voice [msec] = 250
     Severity Level =

VOLUME INFORMATION
     VOLUME 1  Total Capacity = 14.0MB
     VOLUME 2  Not Formatted or Not Present
     VOLUME 3  Not Formatted or Not Present
     VOLUME 4  Not Formatted or Not Present

TRUNK INFORMATION
     TRUNK GROUP 1 Channels 0 to 3 SCBUS Loop-B a-law

RECOGNIZER INFORMATION
     ANTARES BOARD NUMBER = 1
     Clock speed = 50 MHz
     Base IO address = 0x210
     Data encoding = A_Law
     Number of DSPs configured = 4
     Number of recognizers configured = 4
     DSP 1  PureSpeech English ASR              1 ports
       VOCAB IDS: 0 99

     DSP 2  PureSpeech English ASR              1 ports
       VOCAB IDS: 0 99

     DSP 3  PureSpeech English ASR              1 ports
       VOCAB IDS: 0 99

     DSP 4  PureSpeech English ASR              1 ports
       VOCAB IDS: 0 99
```

When you select the `trunk` option from the `/sci/config` menu, the SCI prompts you to identify the trunk group that you want to view or modify. Specify the trunk group number, followed by <Enter>. The SCI displays the `/sci/config/trunk` menu as displayed in the following example:

```
/sci/config> trunk
Please Enter the trunk group number to edit = 1
enable    - Enable this trunk group for use.
disable   - Disable this trunk group from use.
edit      - Modify parameters for this trunk group.
list      - List parameters for this trunk group.
done      - Return to the previous menu.
```

Once you have selected the trunk group, you can select the `list` option from the `/sci/config/trunk` menu to display the current configuration for the selected trunk group. The following example lists the configuration for trunk group 1:

```
/sci/config/trunk> list
 TRUNK GROUP  1  Channels 0 to 3  SCBUS  disabled  mu-law
```

By default, all trunk groups installed in your MRS are enabled. If necessary, you can disable a trunk group using the `disable` option. To reenable a disabled trunk group, simply select the `enable` option.

To modify the trunk type for a specific trunk group, select the trunk group and then select the `edit` option from the `/sci/config/trunk` menu. The SCI displays the current trunk type and prompts you for the new trunk type.

> ***Note:*** All trunk groups on the same physical trunk interface module must be assigned a similar trunk type: loopstart, DID, or T1. Consider the available trunk types listed in the following example. If trunk groups 1 through 3 are on the same DID trunk interface module, each of these groups could be configured as DID or DID-Pulse. The other types would not be valid.

```
/sci/config/trunk> edit
Current Trunk Type = 12
0      - AdsiLoopB          1      - DID
2      - DID-Pulse          3      - DID-Pulse-Wink
4      - ExtLineIntfc       5      - FXS-T1-LoopStart
6      - FXS-T1B-LoopStart  7      - HK-LoopStart
8      - HK-LoopStart       9      - INV-T1-E&M
10     - LCO-LoopStart     11      - Loop-B
12     - LoopStart         13      - NS42
14     - T1-E&M            15      - T1-E&M-B
16     - T1-W-ANI-E&M      17      - T1-W-D-A-E&M
18     - T1-W-DNIS-E&M     19      - T1-W-E&M
```

```
Trunk Type = 11
```

A trunk type corresponds to a defined trunk configuration file. The standard trunk types may change with new releases of the MRS software. For further information about custom trunk types, contact your sales representative.

Modifying trunk type files

Each of the available trunk types is defined by trunk type files. By using the `edit` option on the `/sci/maint/params` menu, you can modify the parameter values for an existing trunk type. When you select this option, the SCI opens the corresponding trunk type file for editing.

WARNING

Risk of data loss

You must be familiar with the vi editor to be able to edit a parameter file. Refer to UNIX documentation for further information about this editor. To save your changes and return to the SCI prompt, type **:x.** and press <Enter>; to quit without saving, type **:q!** and press <Enter>.

Be aware that if you edit a standard trunk type file that was originally shipped with your system, your changes will be lost (overwritten) when you install MRS upgrades containing trunk type files with the same name. The preferred way is to select the new option to create a new trunk type with a unique name for your particular needs.

A trunk type file consists of two major parts. The first part sets system parameters to values other than the MRS default values. Your MRS system includes a file that contains default values for all necessary system parameters. These values are always used unless they are explicitly overwritten by values set in the trunk type file.

The second part of the trunk type file lists a trunk state table, which defines the behavior of that trunk as the channel changes from one state to another.

Note: Because understanding of the trunk state machine requires extensive knowledge of telephony and the internal characteristics of the MRS software, this manual does not provide further information about modifying the trunk state machine.

Creating a new trunk type

To create a new trunk type, you should use the `new` option from the `/sci/maint/params` menu. The new option creates a new trunk type file by copying the `source` file into a new file and then opening it with the vi editor. The `source` file is a file on your MRS that contains default values for all necessary system parameters. These values are always used unless they are explicitly overwritten by new values set in the trunk type file you create. See "Working with trunk type parameters" below for a description of these parameters.

The syntax for the parameters in a trunk type file is as follows:

`set <`*`parameter_name`*`> = <value>`

Where <parameter_name> is the name of the parameter and **<**value**>** is its current value. To modify any of the parameters in the new file, simply change the value associated with the parameter.

Working with trunk type parameters

You will find the various trunk parameters useful for different purposes as described in this section. Selecting the `list` option from the `/sci/maint/params` menu displays the system parameters and their default values that you can change in your trunk type files. For information on setting trunk type parameters, see Appendix D, "Trunk type file parameters."

```
/sci/maint/params> list
#
#  MRS - DCM Default US Channel Parameter File
#  this file contains the parameter values
#  which tune dcm channel functions to operate
#  properly in the US Network.
#
#  Common Parameters
#  type    - MUST be set by the specific trunk type
#  usedti   - MUST be set by the specific trunk type
set allowmf   1;   # default to allowing MF on all trunk types
set allowdp   0;   # do not always allow dp since some TIs false
set usetones  0;   # do not allocate mem for tones if 0
set setmode   0;   # allow host to control digit mode if 0
set playgain  0;   # Use standard play gain on output
```

```
set delaylen  2;   # 2 seconds standard delay length
set boardtype  0;   # type of voice board used (0=D/121A
1=D/121B)
set ttsqueue  0;   # tts resource queueing (0=disabled
1=enabled)
set useagc   1;   # use AGC for record (0=disabled 1=enabled)
set recsil   0;   # Enable/Disable silence during record as an
event
set usecdbits  0;   # Only set and require values for AB on
digital lines
set usesit   0;   # Use SIT tone detection
set usefax   0;   # Use FAX tone detection
set usespeed  0;   # Do not use speed and volume control
set usedti   0;   # Is this a digital interface
set ns42    0;   # Does this hardware support NS42 switches
set hasadsi   0;   # Does this hardware support ADSI

#  Hook State Control Parameters
set flashlen  50;   # duration of a outdial flash hook and dial
ì&î
set flashlen2  50;   # duration of a generated flash hook (7F)
set flashmsk  0xF;  # Hook-flash bit invert mask (DCBA)
set minoffhk  0;   # minimum time the trunk must be off hook
set winklen   20;   # duration of a generated wink (regular)
set winkmsk   0xF;  # wink bit invert mask (DCBA)
set pulselen  25;   # duration of a meter pulse
set pulsemsk  0xF;  # meter-pulse bit invert mask (DCBA)
set offhdly   5;   # min relay settling delay after offhook
set winkdly   5;   # min delay between ring detect and wink
set minrwink  5;   # min duration for a detected wink
set maxrwink  45;   # max duration for a detected wink

#  Hook State Detection Parameters
set minlcoff  35;   # Minimum Loop Current Off
set r_edge   1;   # leading(1) or trailing(2) edge for ring
detection
set r_ird    80;   # inter-ring delay for ring cycle
set r_off    5;   # off time during ring cycle
set r_on    3;   # on time during ring cycle
set ringcnt   1;   # number of rings to wait on incoming calls

#  Indialing General Parameters
set calltype  0;   # type of digits to expect during the call
(0,1,2)
set dnistype  0;   # type of DNIS to expect (0=DTMF, 1=MF, 2=DP)
set dnisnum   0;   # number of DNIS to expect (0=variable)
set anitype   0;   # type of ANI to expect (0=DTMF, 1=MF, 2=DP)
set aninum   0;   # number of ANI to expect (0=variable)
set pdtmo    1;   # pre-dial timeout
```

```
set idtmo    1;   # inter-digit timeout

#  Indialing DTMF Parameters
set dtmftlk   1;   # min debounce for dtmf during play
set dtmfdeb   0;   # min debounce for dtmf during record
set dflags   0;   # edge of digit to report detection on

#  Indialing MF Parameters
set mfminon   0;   # min debounce for mf
set kptype   2;   # length of an expected KP digit

#  Indialing DP Parameters
set minbreak  2;   # min length of a break pulse
set minmake   2;   # min length of a make pulse
set maxbreak  35;   # max length of a break pulse
set maxmake   25;   # max length of a make pulse

#  Outdialing General Parameters
set dialtype  0;   # type of digits to dial (0=DTMF, 1=MF, 2=DP)
set dialdly   100;  # duration of pre-dial delay after detecting
network
set netchk   6;   # maxmimum amount of time to wait for network

#  Outdialing DTMF Parameters
set ttdata   9;   # duration of dialed dtmf digits
set t_idd    11;   # inter-digit pause for dialed dtmf digits

#  Outdialing MF Parameters
set mftone   9;   # Duration of dialed MF digits
set mfdelay   11;   # Duration of inter-digit pause for MF
dialing
set kplength  10;   # Length of a generated KP digit

#  Outdialing DP Parameters
set breaklen  4;   # Duration of dialed break pulse
set makelen   6;   # Duration of dialed make pulse
set dpidd    25;   # Duration of a dialed inter-digit make
interval

#  Outdialing Call Analysis Parameters - Ring & Busy Detect
set stdely   25;   # start delay for detection of silence
set cnosig   1775;  # continuous non-signal (pre-ring silence
timeout)
set logltch   10;   # max low period to deglitch (ignore)
set higltch   20;   # max high period to deglitch (ignore)
set slowrmax  90;   # max short low period for rings
set llowrmin  225;  # min long low period for rings
set llowrmax  700;  # max low period for rings
set slowbmax  90;   # max short low period for busy
```

```
set llowbmax  90;   # max long low period for busy
set hibmax   90;   # max high period for busy
set nbrbeg   1;   # Number of rings to wait before call analysis
set slowrtol  30;   # tolerance for short low periods for rings
(%)
set llowrtol  30;   # tolerance for long low periods for rings
(%)
set hirtol   30;   # tolerance for first high periods for rings
(%)

#  Outdialing Call Analysis Parameters - Answer Detect
set lcdly    6000;  # loop current drop detection delay
set maxansr   25;   # length of a valid answer
set ansrdgl   -1;   # answer de-glitch (post-ring silence
timeout)
set usepamd   0;   # Use PAMD (positive answ. machine) (0=off,
1=on)
set pamdspd   1;   # PAMD speed value (1=full, 2=quick)
set pamdqual  11;   # PAMD qualification template (must be 11)
set pamdfail  400;  # PAMD maximum wait time (x10mS)
set pamdring  190;  # PAMD minimum ring duration (x10mS)
#  Progress Tone Detection Parameters
set dialf1   350;  # Dial Tone - Frequency 1
set dialf2   440;  # Dial Tone - Frequency 2
set dialftol  10;   # Dial Tone - Frequency Tolerance
set dialmin   200;  # Dial Tone - Minimum time on
set busyf1   480;  # Busy Tone - Frequency 1
set busyf2   620;  # Busy Tone - Frequency 2
set busyftol  10;   # Busy Tone - Frequency Tolerance
set busyon   40;   # Busy Tone on Cadence
set busyoff   40;   # Busy Tone off Cadence
set busyctol  50;   # Busy Tone - Cadence Tolerance
set busyrpt   2;   # Busy Tone - Repeat Count
set sdialf1   0;   # Second Dial Tone - Frequency 1
set sdialf2   0;   # Second Dial Tone - Frequency 2
set sdialftol  0;   # Second Dial Tone - Frequency Tolerance
set sdialmin  0;   # Second Dial Tone - Minimum time on
set fax1f1   1100;  # Fax/Modem Tone #1
set fax1f2   0;   # Fax/Modem Tone #1
set fax1ftol  20;   # Fax/Modem Tone #1
set fax1min   20;   # Fax/Modem Tone #1
set fax2f1   2100;  # Fax/Modem Tone #2
set fax2f2   0;   # Fax/Modem Tone #2
set fax2ftol  20;   # Fax/Modem Tone #2
set fax2min   20;   # Fax/Modem Tone #2
set disc1f1   0;   # Disconnect 1 Tone - Frequency 1
set disc1f2   0;   # Disconnect 1 Tone - Frequency 2
set disc1ftol  10;   # Disconnect 1 Tone - Frequency Tolerance
set disc1on   0;   # Disconnect 1 Tone on Cadence
```

```
set disc1off  0;   # Disconnect 1 Tone off Cadence
set disc1ctol  10;   # Disconnect 1 Tone - Cadence Tolerance
set disc1rpt  2;   # Disconnect 1 Tone - Repeat Count
set disc2f1   0;   # Disconnect 2 Tone - Frequency 1
set disc2f2   0;   # Disconnect 2 Tone - Frequency 2
set disc2ftol  10;   # Disconnect 2 Tone - Frequency Tolerance
set disc2on   0;   # Disconnect 2 Tone on Cadence
set disc2off  0;   # Disconnect 2 Tone off Cadence
set disc2ctol  10;   # Disconnect 2 Tone - Cadence Tolerance
set disc2rpt  2;   # Disconnect 2 Tone - Repeat Count
set uppert1   1000;  # Upper bound of 1st SIT freq
set lowert1   900;  # Lower bound of 1st SIT freq
set timet1   5;   # Debounce for 1st SIT freq
set adsif1   2130;  # ADSI Ack Tone
set adsif2   2750;  # ADSI Ack Tone
set adsia1   -15;  # ADSI Ack Tone
set adsia2   -15;  # ADSI Ack Tone

# Miscellaneous other parameters
set adsion   8;   # ADSI Ack Tone
set acdspre   0x1;  # ACD SPRE Code
set acdfcon   0x97;  # ACD Logon function code
set acdfcoff  0x97;  # ACD Logoff function code
set acdgroup  1000;  # ACD Agent Group

#  Special United States Network Parameters
set cnosil 250;  # this is just a place marker ***********
```

Modifying the available option resources

To modify speech resources, such as TTS or ASR, you must delete the resource and add it again with new parameter values. You would use `options` on the `/sci/setup` or `/sci/install/setup` menu. See Chapter 7, “Command reference.

Fax resources can also be removed or added from the `/sci/setup` menu. However, you can also change the current configuration from the `/sci/config` menu.

Modifying fax information

If the Fax option is installed in the MRS, you can modify fax information for any of fax boards that are installed. You can disable or enable a fax board, as well as list and edit board parameters.

Similar to modifying Text-to-Speech options, you can add or remove Fax option modules or modify the current configuration by accessing the `/sci/setup/options` menu and selecting the appropriate option: `gamma` or `brooktrout`.

For example, the following screen adds the gamma Fax option:

```
/sci/setup/options> gamma
Please Enter the fax board number to edit = 1
Current Fax Does Not Exist - Add it? = cancel
add     - Add a new entry.
cancel   - Do not add the new entry.
       Fax Does Not Exist - Add it? = add
Current Fax Board Type = cp-4/sc
cp-4/sc   - GAMMAFAX CP-4/SC
cp-6/sc   - GAMMAFAX CP-6/SC
cp-12/sc  - GAMMAFAX CP-12/SC
       Fax Board Type =
Current Type of data encoding to use? = mu-law
mu-law   - Default data encoding used in the US.
a-law    - Default data encoding used in Europe.
       Type of data encoding to use? =
Current I/O Switch (SW-3) Setting: = 15
15     - @ 0x358 (physical channels 0-3)
14     - @ 0x158 (physical channels 4-7)
13     - @ 0x168 (physical channels 8-11)
12     - @ 0x140 (physical channels 12-15)
11     - @ 0x148 (physical channels 16-19)
10     - @ 0x2B0 (physical channels 20-23)
9      - @ 0x2B8 (physical channels 24-27)
8      - @ 0x2C0 (physical channels 28-31)
7      - @ 0x2C8 (physical channels 32-35)
6      - @ 0x2D0 (physical channels 36-39)
5      - @ 0x2D8 (physical channels 40-43)
4      - @ 0x390 (physical channels 44-47)
3      - @ 0x398 (physical channels 48-51)
2      - @ 0x380 (physical channels 52-55)
1      - @ 0x388 (physical channels 56-59)
0      - @ 0x268 (physical channels 60-63)
       I/O Switch (SW-3) Setting: =
```

To modify fax parameters, select the board to be modified and then select the `edit` option. The SCI then prompts you to enter parameter values for each of the active ports as illustrated in the following example:

```
/sci/config> fax
Please Enter the fax board number to edit = 1
enable- Enable this fax board for use.
```

```
disable- Disable this fax board from use.
edit- Modify parameters for this fax board.
list- List parameters for this fax board.
done- Cancel this operation.
/sci/config/fax>
/sci/config/fax> edit
FAX PORT 1
Current Port Status = enabled
enabled- The unit will be used
disabled   - The unit will not be used
 Port Status =
Current Receive Resolution = dpi200
dpi100 - 100 dots per inch
dpi200 - 200 dots per inch
 Receive Resolution =
dpi100
Current Receive Imagewidth = a4width
a4width- A4 width format
a3width- A3 width format
b4width- B4 width format
 Receive Imagewidth =b4width
Current Receive Imagelength = unlimited
a4length   - A4 length format
b4length   - B4 length format
unlimited  - Unlimited length
 Receive Imagelength =FAX PORT 2
Current Port Status = enabled
enabled- The unit will be used
disabled   - The unit will not be used
 Port Status =
Current Receive Resolution = dpi200
dpi100 - 100 dots per inch
dpi200 - 200 dots per inch Receive Resolution =
Current Receive Imagewidth = a4width
a4width- A4 width format
a3width- A3 width format
b4width- B4 width format
 Receive Imagewidth =
Current Receive Imagelength = unlimited
a4length   - A4 length format
b4length   - B4 length format
unlimited  - Unlimited length
 Receive Imagelength =
/sci/config>
```

Configuring SNMP management services

If your MRS is installed on a network utilizing the SNMP protocol (Simple Network Management Protocol), you can configure your MRS to communicate with the management host. The `snmp` option on the `/sci/config` menu allows you to enable or disable this feature. For further information about configuring SNMP services, refer to the chapter "Using SNMP with OPEN IVR" in the *Symposium OPEN IVR System Administration Guide* (P0881274).

Saving changes to the configuration

Once you have completed your changes to the MRS configuration, you can save them by selecting the `done` option from the `/sci/config` menu. The SCI then returns control to the `/sci` menu.

> ***Note:*** Saving the new configuration does not automatically enable it. To implement the new configuration, reset the system by selecting the `reset` option from the `/sci` menu (see "When changes take effect" below for information on resetting the MRS).

Returning to the Main Menu without saving changes

If you decide that you want to cancel the changes you have made while in the `/sci/config` environment, simply select the `cancel` option from the `/sci/config` menu.

The SCI aborts all of your changes, returns to the Main Menu, and leaves the system configuration parameters unchanged.

When changes take effect

If you modify the system configuration, the new configuration will not be in effect until you reset the MRS software or restart or reboot the MRS. For most situations, you can simply reset the MRS software. However, if you reenable a disabled feature, the feature will not be operational until you restart the MRS.

To reset the MRS software, select the `reset` option from the `/sci` menu. To reboot the MRS, select the `restart` option from the `/sci/maint` menu.

Reasons to disable a feature

Under certain conditions, you may need to disable a board (for example, if you are getting errors consistently on a particular channel, fax port, or speech recognition board). Another situation is when some of the channels on the trunk interface modules are installed simply as hot spares and are not connected to any physical telephone lines.

Activating or deactivating system modules

Everything in this chapter has dealt with changing the current configuration of the system. What if you want to install or remove modules in the MRS?

If you have service access privileges to the SCI, you can perform these administrative tasks by accessing the `/sci/setup` menu. This menu is discussed in Chapter 7, "Command reference."

Chapter 3: Installing software on the MRS

Overview

You can install a variety of software and data files on your MRS to enhance the operation of your MRS voice-processing system.

This chapter discusses:

- what you can install
- how installing software affects operations
- how you perform an installation
- how you relink the kernel
- how you check software status

Note: Licenses and system setup functions are discussed in Chapter 5, "License manager," and Chapter 6, "Setup menu."

Items to install

To enhance the resources on the MRS that are available to your applications, you may need to install new option packages or various data files. An option package may consist of an update for software already running on your MRS or a new feature, such as the Fax or Speech Recognition. (Contact your Nortel sales representative for further information about available options.)

Data files can also be installed. For example, you may want to load additional voice prompts. Or, if you have the Fax option, you may need to load different fax objects, such as logos, signatures, and special forms.

Operational impact of software installation

During the installation, all activity on the MRS is automatically stopped. Consequently, you may need to perform installation procedures during a time period when you know the inbound call traffic will be low.

Before starting the install process, stop the applications that are currently running on the AP. This will prevent any calls in progress from being abruptly terminated. Also, if you have multiple systems at your site, you may want to redirect the phone calls to another system to maintain continued service.

Performing an installation

The procedure to install new software depends on what you need to install. Typically, software options are provided on floppy disks.

> ***Note:*** If necessary, you can verify the integrity of a floppy disk prior to installation by using the `check` option in the Service Control Interface (`/sci/admin/catalog` or `/sci/install` menu).

Use the `SCI` options included on the `/sci/install` menu to initiate the installation, and follow the instructions included in the *Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide* supplied with the software distribution. After you have completed the installation, exit the `/sci/install` menu by automatically rebooting the MRS, making the new software operational. This section explains:

- accessing the installation menu
- displaying the option revision levels
- displaying installed packages
- installing a new option package
- removing an option package
- restoring data file backups
- activating the new software

Accessing the installation menu

During a time period that inbound call traffic is anticipated to be low, perform the following steps to access the installation menu.

1 Stop all applications running on the AP.

2 From the `/sci` menu, select the `install` option.

The SCI displays a warning indicating that proceeding will stop all activity on the MRS.

3 Type **yes** and press <Enter> to continue.

The MRS software is stopped, and the READY light on the MRS front panel starts flashing, indicating that the MRS is disabled. At this point, the SCI displays the `/sci/install` menu as shown below.

```
/sci>  install
*********************************************************
WARNING - Executing this option will cause the system to be
stopped.  Once the Install Menu is entered the only
 way to restart operations will be to reboot the MRS.
*********************************************************
Are you sure you wish to continue?
Current continue?  = no
yes   Continue with operation.
no-   Return to previous menu.
continue?  = yes
Stopping the System Now!
rev          - Display the revision levels of all packages.
package     - Install an option package update from floppy.
link         - Link the UNIX kernel.
country      - Configure country specific parameters.
setup        - Display & modify the current hardware setup.
display      - Display all packages installed in the system
remove       - Remove an option package from the system
verify       - Verify all installed option packages.
check        - Check the integrity of an install package
diskette.
restore      - Restore data files from a floppy.
lhttslang    - Install Lang. disks for L&H TTS.
extracttar   - Extract a tar archive from disk.
restart      - Restart the system.
```

Displaying the current software

You can display the current revision levels of all of the software currently installed on the MRS by using the `rev` option. The software displayed comprises the MRS runtime system, including the SCI, as illustrated in the following example:

```
/sci/install>  rev
MRS            US Country Parameters  Revision 4.00
MRS     Base Package  Revision 4.00
MRS     Nortel System Panel Driver  Revision 4.00
MRS     Fax Option  Revision 4.00
MRS     Speech Recognition Option  Revision 4.00
MRS     MRS/Tower System Configuration  Revision 4.00
UNIX       Revision 3.2 Version 4.2
DIALOGIC Firmware /usr/dialogic/data/d12x.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d4xd.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d8x.fwl Revision 2.40
```

Note: The configurations appearing in the figures in this manual may not accurately represent your particular system setup.

Revision numbers are useful for servicing the system and should be included with any trouble reports that you file with your service representative.

To quickly review the available software installed on the MRS, select the `display` option from the `/sci/install` menu.

```
/sci/install>  display
```

The system displays the following information:

```
Dialogic Generic Voice Development Platform
Dialogic Springboard-D4xD Firmware Support
Dialogic DTI/xxx UNIX Development Package
MRS Base Package
MRS Fax Option
MRS US Country Parameters
MRS Nortel System Panel Driver
MRS Speech Recognition Option
MRS MRS/Tower System Configuration
```

Checking the integrity of a new option package

Before installing a new option package, you may want to make sure that the disk includes the correct version of software and is usable. This can be done by using the `check` option.

The check option allows you to verify that a floppy disk is readable. This option is particularly useful for checking floppy disks included in a software installation package to ensure that they do not contain errors as a result of shipping. The check option can also be used to verify that a floppy disk has been properly formatted with the prepare option prior to starting a backup procedure, or that it already contains files backed up with the backup option.

The following example checks three disks. The first floppy was previously formatted with the prepare option or already contains backed up files. The second floppy contains installation software and is readable. The third floppy contains errors and is not readable.

```
/sci/admin/catalog>  check
Insert the floppy to check - type q to quit or hit ENTER to
continue
Nortel Data File Backup/Restore Format
/sci/admin/catalog> check
Insert the floppy to check - type q to quit or hit ENTER to
continue
Nortel Format: System Configuration Revision 4.00.00
/sci/admin/catalog> check
Insert the floppy to check - type q to quit or hit ENTER to
continue
ERROR Reading Input Media:
The disk may not be in install package format.
Media errors may have occurred during shipment.
Contact Nortel customer service to arrange for replacement media
to be issued.
/sci/admin/catalog>
```

Installing a new option package

Several option packages are available to MRS users, including different drivers for Voice, Fax, and Speech Recognition modules. You can install an option package by using the package option.

You can install software from CD-ROM, hard disk, or floppy disk. Installing software from a hard disk or floppy disk must be performed on the same machine. On the other hand, if you are installing from CD-ROM, the CD-ROM can be located on a remote system, such as a remote AP or another MRS.

To install software, follow these steps.

1 From the `/sci/install` menu, select the `package` option.

The SCI prompts you to specify the media from which you are loading the software.

2 Select `CD-ROM`, `hard disk`, or `floppy disk`.

The SCI prompts you to specify the hosts that are involved, such as local to local or remote to local.

3 Follow the remaining prompts.

The SCI prompts you to install the CD-ROM or floppy disk to continue the installation.

The following example starts installing a CD-ROM software package from a CD-ROM drive on the local host and to a hard drive on the local host.

```
/sci/install>  package

Select Media Device:
-----------------------------------------------------------
1.  CD-ROM
2.  Hard Disk            (local installs only)
3.  Floppy Disk 0        (local installs only)

  Please enter your selection or q to quit []: 1

  Specify which host machine installing FROM and TO:
-------------------------------------------------

1.  FROM   localhost   TO   localhost
2.  FROM   remote host  TO   localhost
3.  FROM   localhost   TO  remote host

  Please enter your selection or q to quit []: 1

  INSTALLING FROM localhost TO localhost

  Enter “c” to continue, “r” to redo, or “q” to quit: c

Insert installation CD into CD-ROM drive at host =>
localhost

Type q to quit or hit ENTER to continue:
```

Because installation procedures may vary between option packages, refer to the appropriate documentation for your selected option. Once the procedure has been completed, control is returned to the `/sci/install` menu.

Removing an option package

While working in the `/sci/install` menu environment, you can remove an option package from the MRS using the `remove` option.

Note: Only one option can be removed at a time.

To remove an option package, follow these steps.

1 At the `/sci/install` prompt, select the `remove` option.

The SCI displays the option packages currently installed on the MRS as illustrated in the following example, and prompts you to identify the option package to be removed.

```
/sci/install>  remove
    1   Dialogic Generic Voice Development Platform
    2   Dialogic Springboard-D4xD Firmware Support
    3   Dialogic DTI/xxx UNIX Development Package
    4   MRS  Base Package
    5   MRS  Fax Option
    6   MRS  US Country Parameters
    7   MRS  Nortel System Panel Driver
    8   MRS  Speech Recognition Option
    9   MRS  MRS/Tower System Configuration
Enter Package Number to remove or q to quit :
```

2 Enter the number identifying the package to be removed and press <Enter>.

The following prompt is displayed:

```
Type ESC to quit or hit ENTER to continue:
```

3 Press <Enter> to delete the selected package or <ESC> to quit without performing the remove operation.

Upon completion, the SCI returns control to the `/sci/install` menu.

Relinking the kernel

Whenever you install a software package, you need to rebuild the kernel. Most installation processes will prompt you at the end to relink the kernel. Since relinking often requires a lengthy period of time, if you have more than one package to install, you may find it useful to delay relinking until all of the new packages have been loaded on the system. The `link` option allows you to rebuild the kernel whenever you are ready, at your own discretion. Of course, to activate the rebuilt kernel, you will need to restart the MRS.

```
/sci/install>  link
        The UNIX Operating System will now be rebuilt.
        This will take a few minutes.  Please wait.
        Root for this system build is /.
        The UNIX Kernel has been rebuilt.
Do you want this kernel to boot by default? (y/n)
Please answer y or n
Do you want this kernel to boot by default? (y/n) y
Backing up /unix to /unix.old
Installing new /unix
The kernel environment includes device node files and
/etc/inittab.
The new kernel may require changes to /etc/inittab or device
nodes.
Do you want the kernel environment rebuilt? (y/n) y
The kernel has been successfully linked and installed.
        To activate it, reboot your system.
Setting up new kernel environment
```

Verifying installed option packages

To verify that all of the files associated with an option package are loaded on the MRS, use the `verify` option. The SCI displays all of the files that are loaded and identifies any files that could not be found, as shown below.

```
/sci/install>  verify
Verifying installed package integrity
Verifying MRS Base Package
Verifying MRS Fax Option
Verifying MRS US Country Parameters
Verifying MRS Nortel System Panel Driver
Verifying MRS Speech Recognition Option
Verifying MRS MRS/Tower System Configuration
Checking Cross Package Requirements
All installed packages have been verified
```

Restoring data files

You can restore VSN files and fax sets that have been backed up to floppy disk by using the `restore` option. This option is often used to install country-specific network progress tones or backed-up application prompts.

To restore data files, follow these steps.

1 Select the `restore` option.

The SCI prompts you to insert the floppy disk containing the files to be restored.

2 Insert the backup disk in the MRS's floppy disk drive.

3 Press any key to continue to restore the files on the backup disk.

Once the restore process has been completed, control returns to the `/sci/install` menu.

Activating the new software

The software that you have installed will not be activated until the system is rebooted.

To activate the new software, follow these steps.

1 Select the `restart` option from the `/sci/install` menu.

2 The SCI exits the `/sci/install` menu and reboots the system.

Note: Make sure that there is no floppy disk in the floppy drive before rebooting the system. Otherwise, your system will not boot.

Checking software status

As mentioned earlier in this chapter, you can view the available software by using options (`rev`, `display`, `verify`, and `check`) on the `/sci/install` menu. However, you probably would not want to do this during normal operations, since entering the `/sci/install` menu environment would disrupt all activity on the system.

Instead, you can review the current software status by selecting the `catalog` option from the `/sci/admin` menu. The SCI displays the available functions as shown in the following example:

```
/sci/admin>  catalog
rev          - Display the revision levels of all packages
procrev      - Display the full revision/checksum of all
                 processes
display      - Display all packages installed in the system
verify       - Verify all installed option packages
check        - Check the integrity of an install package diskette
done         - Return to the previous menu
```

These options are identical to the corresponding options on the `/sci/install` menu. The `rev` option displays the current revision levels of all of the software installed on the MRS. The `display` option displays all option packages. The `verify` option validates that all of the files associated with an option package are loaded on the MRS.

Chapter 4: File management

The Service Console Interface (SCI) includes options that you can use to manage files residing on your MRS, from prompts and voice messages to special fax sets and logos. The SCI's file management functions can be accessed by selecting the `files` option from the `/sci` menu below.

```
/sci>  files
header       - Display or modify a VSN's header.
vsn          - Perform VSN management functions.
fax          - Perform fax conversion management functions.
vocab        - Perform vocabulary management functions.
tts          - Perform tts management functions.
agent_id     - Modify ACD Agent Id File
restore      - Restore data files from a floppy.
prepare      - Prepare a floppy disk for data file Backup.
done         - Return to the previous menu.
/sci/files>
```

This chapter discusses managing files on the MRS, including

- VSN files
- fax objects
- Speech Recognition vocabulary
- Text-To-Speech exception dictionary
- ACD agent setup
- floppy disk backup preparation
- file backup
- file restoration

VSN files

Prompts, voice messages, ASCII text files, and fax documents are stored on the MRS as unique voice storage number (VSN) files. As you work with the SCI's file management facilities, you will notice that VSN files are listed in hexadecimal notation. However, to reference a specific VSN file, you can specify this numeric identifier in hexadecimal or decimal notation.

> ***Note:*** If you want to reference a VSN file identifier in hexadecimal notation, precede the number by 0x, such as 0x1000. Otherwise, the SCI will assume that you are entering the number in decimal notation.

The MRS stores VSN files in VSN volumes. A VSN volume is a virtual disk residing on one of the physical hard disk drives installed in the MRS. Your MRS may have up to four VSN volumes; multiple volumes may reside on a single physical disk. Table 4-1 shows the distribution of VSNs on each VSN volume. As indicated here, each VSN file is identified by a unique four-digit hexadecimal number, which can also be represented in decimal notation. Each VSN volume may contain up to 16 384 VSNs. Only the first 13 824 VSNs are accessible by the application running on the AP. The remaining VSNs are used for internal tasks and may not be accessed by the application software. The VSN volumes are usually identified by an alphabetic character (for example, A, B, C, D).

Table 4-1: VSN numbers supported on VSN volumes

Supported VSNs		
VSN volume	**Hexadecimal**	**Decimal**
1 (A)	**0000–3FFF**	**00000–16383**
2 (B)	**4000–7FFF**	**16384–32767**
3 (C)	**8000–BFFF**	**32768–49151**
4 (D)	**C000–FFFF**	**49152–65535**

WARNING

Risk of data loss

When you purchase your MRS, be sure to specify the number of VSN volumes you need based on your application requirements. Once the system is configured, you cannot add another VSN volume without adding another disk drive to the system or reconfiguring your existing volumes. If you add another disk or reconfigure the current system, all data stored in the existing VSN volumes will be lost. The default shipping configuration is two VSN volumes, volumes 1 and 2 (that is, A and B)

Each VSN file has a header that identifies several useful characteristics. It indicates what type of file it is, such as voice, text, binary (for Binary File Transfer), or TIFF, and the compression technique used to record the file contents, such as ADPCM, fax, or mu-law. Also noted is the sampling rate used to code the contents of the file, 24 or 32 kbits/s, and the file length. The header may also include a comment to describe the contents of the file. The following example displays a sample VSN header:

```
/sci/files/header>  query
Default VSN header to display = 0
        VSN header to display =
-------------------------------------------------------------
| VSN Type        : ASCII Character Data|
| Length          : 1679 Characters|
| Comment Text    : Welcome to the Trade Show|
-------------------------------------------------------------
/sci/files/header>
```

Application interactions with VSN volumes

Applications running on the AP access VSN volumes to retrieve and store specific prompts, voice messages, ASCII text files, and fax documents by VSN number. The VSN header identifies the pertinent information about the VSN for processing its contents.

Managing VSN files

You can use several SCI options to manage VSN files. You can display or modify a VSN header. Access the `header` option from the `/sci/files` menu to display the following menu:

```
/sci/files> header
query    - Display a VSN's header information.
add      - Add a header to a VSN.
delete   - Delete header from a VSN.
done     - Return to previous menu.
```

> ***Note:*** When manually adding a header to a VSN, be certain to specify all parameters correctly; otherwise, you will get errors when the VSN is accessed.

You can also copy, install, delete, and back up VSN files; view the VSN allocation map and VSN volume usage; and clear a specific volume. To perform these functions, select the `vsn` option from the `/sci/files` menu.

```
/sci/files>  vsn
copy        - Copy VSN files.
install     - Install VSN files from floppy disk.
delete      - Delete VSN files.
clear       - Clear a VSN Volume of all VSNs.
usage       - Display the VSN volume utilization.
backup      - Backup VSNs to a floppy disk.
map         - Display the current VSN allocation map.
done        - Return to the previous menu.
/sci/files/vsn>
```

Modifying a VSN file header

You can display, add, or delete a VSN header, as shown in the following example:

```
/sci/files/header> add
Default VSN to add header to = 0
VSN to add header to = 610
What is the type of the VSN to add the header to?
Current Choose to VSN type = 1
1           - ADPCM (Voice file)
2           - FAX
3           - ASCII (text file)
4           - A-law (European PCM file
5           - Mu-law (American PCM file)
6           - ADSI
7           - EPSON
```

```
8           - BFT
default     - ADPCM
Choose the VSN type =
Current Sample Rate = 32k
24k- 24 kb/s Sampling Rate
32k- 32 kb/s Sampling Rate
default- 32 kb/s
Sample Rate:
Type in a comment string up to 160 characters:
corporate greeting

/sci/files/header> delete
Default VSN header to delete = 0
VSN header to delete = 705
Ready to delete VSN 705
Are you sure you wish to delete this VSN?
Current continue? = yes
yes - Continue with operation.
no - Return to previous menu.
continue? = yes
/sci/files/header>
```

Note: Binary files that you intend to send with the Brooktrout Fax option require a BFT-type header. Binary files can be loaded on the MRS and assigned to a VSN with the BFT-type header using the `install` option from the `/sci/files/vsn` menu. See "Installing new VSNs" below.

Copying a VSN file

The `copy` option allows you to copy a VSN file. You can copy the file to the same volume or to another VSN volume. Select the `copy` option from the `/sci/files/vsn` menu. The SCI prompts you to specify the file to be copied (the source) and the destination file.

The following example copies VSN 0x0096 to VSN 0x2711:

/sci/files/vsn> copy

```
Default Source VSN = 0
Source VSN = 0x0096
Default Destination VSN = 0
Destination VSN = 0x2711
Ready to Copy VSN 0x0096 to VSN 0x2711
Are you sure you wish to continue?
Current continue?  = yes
```

```
yes - Continue with operation.
no  - Return to previous menu.
        continue?  = yes
VSN 0x0096 to 0x2711 - Copied Successfully
/sci/files/vsn>
```

Installing new VSNs

Any file can be loaded on the MRS as a VSN. The `install` option from the `/sci/files/vsn` menu displays a submenu of options for loading files on the MRS as VSNs.

```
/sci/files/vsn>  install
load         - Load more VSN objects from a UNIX-TAR disk.
dosload      - Load more VSN objects from a DOS disk.
view         - List VSN objects not yet assigned.
assign       - Assign VSN object to VSN number.
done         - Return to the previous menu.
```

Initially, you load the file into temporary storage from a UNIX-Tar or DOS formatted floppy disk by using the `load` or `dosload` option, respectively. Once the files are loaded, you can assign them to VSNs with the `assign` option. The VSN header is automatically created based on the file type you specify. The `view` option allows you to see which loaded files remain unassigned to VSNs.

Normally, you select a VSN number greater than 500 (prompts loaded on the MRS are assigned numbers 0–500). If the VSN already exists, you are prompted as to whether or not to overwrite the VSN.

Unlike the `assign` option on the `/sci/files/fax` submenu, this option automatically creates a VSN header based on your responses to prompts about the file being stored. This option provides a simple method for creating VSNs in the T.434 format required for Binary File Transfer (BFT).

The following example loads the ASCII file `mytext` from a UNIX-TAR disk and assigns the file to VSN 1500 with an ASCII-type header.

```
/sci/files/vsn>  install
load         - Load more VSN objects from a UNIX-TAR disk.
dosload      - Load more VSN objects from a DOS disk.
view         - List VSN objects not yet assigned.
assign       - Assign VSN object to VSN number.
done         - Return to the previous menu.
/sci/files/vsn/install> load
Restoring Data files from Backup Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quite)
```

```
x myfile, 182 bytes, 1K
/sci/files/vsn/install> assign
What is the type of the VSN to add the header to?
Current Choose the VSN type:  = 1
1          - ADPCM (Voice file)
2          - FAX
3          - ASCII (text file)
4          - A-law (European PCM file)
5          - Mu-law (American PCM file)
6          - ADSI
7          - EPSON
8          - BFT
default     - ADPCM
        Choose the VSN type:  = 3

Type in a comment string up to 160 characters:
 This is an ASCII File VSN
Default VSN to copy myfile to = 0
     VSN to copy mytext to = 1500
```

Deleting a VSN file

To remove one or more VSN files from a VSN volume, select the `delete` option. The SCI prompts you for the VSN volume and the range of VSNs to be deleted.

WARNING

Risk of data loss

If you attempt to delete a VSN using an invalid identifier (e.g, an out-of-range VSN), the delete option defaults to VSN 0x0000 and prompts you to confirm your entry. Be certain to respond NO to this prompt; otherwise, VSN 0x0000 will be deleted.

The following is an example of deleting a VSN file:

```
/sci/files/vsn>  delete
vsn     - Delete a single VSN.
range   - Delete a range of VSNs.
done    - Return to the previous menu.
/sci/files/vsn/delete>  vsn
Default VSN to delete = 0
        VSN to delete =  0x2711
Ready to Delete VSN 0x2711
```

```
Are you sure you wish to delete this VSN?
Current continue?  = yes
yes     - Continue with operation.
no      - Return to previous menu.
          continue?  = yes
VSN 0x2711 - Deleted Successfully
/sci/files/vsn>
```

Clearing a VSN volume

The `clear` option allows you to delete all VSN files from a VSN volume. You should ensure that any VSN files you may need later are backed up.

Displaying VSN volume usage

The `usage` option allows you to display how much space on all VSN volumes is allocated. For each VSN volume, the SCI displays the volume capacity and the amount of used and available space (in Mbytes).

The following example illustrates an MRS configured with four VSN volumes. Volume 1 has a total storage capacity of 212 Mbytes. Currently, 9.3 Mbytes are used, leaving 202.7 Mbytes free for storing new VSN files. Notice that although four volumes are allocated, volumes 3 and 4 are either not present or not formatted.

```
/sci/files/vsn>  usage
VOLUME 1 - Capacity = 212.0MB    Used =  9.3MB    Free = 202.7MB
VOLUME 2 - Capacity = 319.0MB    Used =  4.1MB    Free = 314.9MB
VOLUME 3 - Not Present or Not Formatted
VOLUME 4 - Not Present or Not Formatted
/sci/files/vsn>
```

Sometimes it is useful to know the storage capacity of your MRS or available space in hours rather than Mbytes. To convert Mbytes into hours, use the following simple formula:

$$\text{storage [hours]} = \frac{\text{storage [Mbytes]} \times 8 \text{ bits/byte} \times 1000 \text{ kbytes/Mbyte}}{\text{sampling rate [kbit/s]} \times 3600 \text{ sec/hour}}$$

For example, Volume 1 has 202.7 Mbytes of free space. If the sampling rate is 32 kbit/s, you can calculate the available space in hours, as follows:

$$\text{storage} = \frac{202.7\text{MBbytes} \times 8 \times 1000}{32\ \text{kbps} \times 3600\ \text{sec/hour}} = 14.08\ \text{hours}$$

Backing up VSNs

The `backup` option allows you to back up individual VSNs or a range of VSN files to a floppy disk. Before backing up VSN files, however, you must format a 3.5-inch, high-density floppy disk by using the `prepare` option. (For information on the `prepare` option, see "Preparing a floppy disk for backup" on page 4-25.)

The example that follows backs up VSN files 0x0000 to 0x000b. If you want to back up only a single VSN, both the starting and the ending VSN numbers should be the same.

> ***Note:*** If the amount of data to be backed up exceeds the capacity of the floppy disk, the MRS will prompt you to insert successive disks. Consequently, whenever you intend to do a backup, you should have additional formatted disks available.

```
/sci/files/vsn>  backup
Starting vsn number:  0x0000
Ending vsn number:  0x000b
Saving Data Files 0000 000b to Floppy
/Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
seek = 0Ka /vrs/vsn/drivea/vsn00/vsn0000 3K
seek = 4Ka /vrs/vsn/drivea/vsn00/vsn0001 3K
seek = 7Ka /vrs/vsn/drivea/vsn00/vsn0002 3K
seek = 10Ka /vrs/vsn/drivea/vsn00/vsn0003 3K
seek = 13Ka /vrs/vsn/drivea/vsn00/vsn0004 3K
seek = 16Ka /vrs/vsn/drivea/vsn00/vsn0005 3K
seek = 20Ka /vrs/vsn/drivea/vsn00/vsn0006 3K
seek = 23Ka /vrs/vsn/drivea/vsn00/vsn0007 2K
seek = 25Ka /vrs/vsn/drivea/vsn00/vsn0008 2K
seek = 28Ka /vrs/vsn/drivea/vsn00/vsn0009 3K
seek = 31Ka /vrs/vsn/drivea/vsn00/vsn000a 3K
seek = 34Ka /vrs/vsn/drivea/vsn00/vsn000b 3K
Done Saving Files
/sci/files/vsn>
```

Once the backup has been completed, label the backup disk. If multiple disks were required, label them sequentially.

Displaying the current VSN allocation map

The `map` option allows you to display which VSN files are stored on the available VSN volumes. You may find this useful for troubleshooting (for example, you might compare the VSN map against a prompt, message, text, or fax map associated with your application software.)

Each VSN file is identified by a four-digit hexadecimal number. The `map` option displays how VSN files are mapped on each of the VSN volumes, starting with volume 1. The following example shows a sample map of volume 1.

```
/sci/files/vsn>  map
Composing VSN map ... Please Wait
VOLUME 1 contains:
0000    0001    0002    0003    0004    0005    0006    0007
0008    0009    000a    000b    000c    000d    000e    000f
0010    0011    0012    0013    0014    0015    0016    0017
0018    0019    001a    001b    001c    001d    001e    001f
0020    0021    0022    0023    0024    0025    0026    0027
0028    0029    002a    002b    002c    002d    002e    002f
0030    0031    0032    0033    0034    0035    0036    0037
0038    0039    003a    003b    003c    003d    003e    003f
0040    0041    0042    0043    0044    0045    0046    0047
0048    0049    004a    004b    004c    004d    004e    004f
0050    0051    0052    0053    0054    0055    0056    0057
0058    0059    005a    005b    005c    005d    005e    005f
0060    0061    0062    0063    0064    0065    0066    0067
0068    0069    006a    006b    006c    006d    006e    006f
0070    0071    0072    0073    0074    0075    0076    0079
007a    007b    007c    007d    007e    007f    0080    0081
0082    0083    0084    0085    0086    0087    0088    0089
008a    008b    008c    008d    008e    008f    0090    0091
0092    0093    0094    0095    0096    0097    0098    0099
00d4    00d5    00e4    00e5    00e6    00e7    00e8    00e9
00ea    00eb    00ec    00ed    00ee    00ef    00f0    00f1
00f2    00f3    00f4    00f5    00f6    00f7    00f8    00f9
:
```

Fax objects

If the Fax option is installed in your MRS, you will be able to load a variety of files on the MRS for use in fax transmissions initiated by applications running on the AP. For example, you may want to keep a signature or logo available so that it can be merged with an ASCII text file prior to converting that file to fax-ready format for transmission.

Fax set

You can store different fax objects on the MRS to enable easy access by an application sending fax documents over the network. Fax objects that you want to store as signatures, logos, or special forms are stored in fax sets. A fax set is a storage area similar to a directory in a file system. You can define up to 256 fax sets.

CLIFF

Symposium OPEN IVR supports embedded CLIFF (Command Language Interface for Fax) commands to access fax resources to customize your outbound fax or create a cover page.

> ***Note:*** Brooktrout fax supports CLIFF commands, whereas GammaLink fax provides limited support.

A technique called “fax striping” allows you to include fax images (logos, signatures, etc.) with stripes of ASCII text on a fax cover page. This is done by interspersing the special CLIFF commands with text when creating the fax cover page to designate the placement of images and text, and to control some of the aspects of text layout.

When the cover page is converted from ASCII to a transmittable form (TIFF Class F format), the MRS software strips out the CLIFF commands and translates them into appropriate infopackets. This allows the interlacing of ASCII text and images (such as logos, signatures, or other graphics) on the fax cover page, as well as control information in the fax header and footer.

CLIFF provides full control of the page and text layout. In addition, you can enter commands to transmit headers or footers on all pages of the fax with specific user-controlled information.

Another feature supported by CLIFF is fax overlay. An overlay consists of a TIFF file superimposed on an ASCII text file.

For further information about CLIFF, refer to the *Symposium OPEN IVR 4.0 Fax Option Guide*.

Binary File Transfer

If the Brooktrout Fax option is installed, you can send binary files as faxes using the Binary File Transfer (BFT) capability. The BFT feature allows an application to send binary files over the telephone network to another BFT-compatible device. As with other faxes, the transmission is initiated by the IVR Developer SFAX cell. However, there are a few prerequisites. The binary file must

- be loaded on the MRS as a VSN
- be in T.434 format
- have a BFT-type header

These requirements can be accomplished by using the `install` option on the `/sci/files/vsn` menu.

```
/sci/files/vsn>  install
load          - Load more VSN objects from a UNIX-TAR disk.
dosload       - Load more VSN objects from a DOS disk.
view          - List VSN objects not yet assigned.
assign        - Assign VSN object to VSN number.
done          - Return to the previous menu.
```

Using the Binary File Transfer capability

To use the BFT capability, follow these steps.

1 Load the binary file with either the `load` or `dosload` option, depending on the disk format.

2 Assign a VSN to the loaded file by using the `assign` option. Select a number greater than 500 (prompts loaded on the MRS are assigned numbers 0–500).

You are automatically prompted to add a header to the VSN.

3 Select the BFT header type and respond to the prompts for the header. Specifying the BFT header type saves the VSN in the T.434 format.

Once this procedure is complete, the binary file is ready to send. The following example illustrates this procedure. It loads the binary file `myfile` from a UNIX-TAR disk and assigns the file to VSN 1500 with a BFT-type header.

```
/sci/files/vsn>  install
load          - Load more VSN objects from a UNIX-TAR disk.
dosload       - Load more VSN objects from a DOS disk.
view          - List VSN objects not yet assigned.
assign        - Assign VSN object to VSN number.
done          - Return to the previous menu.
/sci/files/vsn/install> load
Restoring Data files from Backup Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quite)
x myfile, 182 bytes, 1K
/sci/files/vsn/install> assign
What is the type of the VSN to add the header to?
Current Choose the VSN type:  = 1
1          - ADPCM (Voice file)
2          - FAX
3          - ASCII (text file)
4          - A-law (European PCM file)
5          - Mu-law (American PCM file)
6          - ADSI
7          - EPSON
8          - BFT
default     - ADPCM
        Choose the VSN type:  = 8

Type in a comment string up to 160 characters:
 This is a Binary Transfer File VSN
Default VSN to copy myfile to = 0
     VSN to copy myfile to = 1500
/sci/files/vsn/install>
```

Interactions between Symposium OPEN IVR and fax sets

If an application running on the AP needs to create a fax document, it manipulates the current ASCII fax data file. This file should have been created previously on the AP. It contains the text of the intended fax document and any CLIFF commands for manipulating fax objects.

The application on the AP transfers the ASCII text file to the MRS, merges the fax objects specified by the CLIFF commands with the text file, and converts it to fax-ready format. The converted file is stored as a temporary VSN and is ready for fax transmission.

Managing fax objects

You can manage fax objects stored on the MRS by selecting the `fax` option from the `/sci/files` menu. The SCI displays the `/sci/files/fax` menu illustrated below.

You can load fax objects onto the MRS and then assign each object to a fax set. Each fax object that you assign to a fax set can be identified as a logo, signature, or form. As you work in this menu environment, you can view which objects are assigned to each fax set, and which are still unassigned.

```
/sci/files>  fax
load     - Load more Fax Objects from a UNIX-TAR disk.
dosload  - Load more Fax Objects from a DOS disk.
view     - List Fax Objects not yet assigned.
map      - List Fax Objects in a Form Set.
form     - Assign a Fax Object to a Form number.
sign     - Assign a Fax Object to a Signature number.
logo     - Assign a Fax Object as a Logo.
default  - Assign a Fax Object as a default file.
listdef  - List defined default files.
editdef  - Edit a default file.
delete   - Delete a Fax Object from a Fax set.
backup   - Backup from the Fax directory.
done     - Return to the previous menu.
```

Loading fax objects from a floppy disk

You can load fax objects onto the MRS from a 3.5-inch, high-density floppy disk that has been formatted with the UNIX `tar` command or that has been formatted under DOS.

The `load` option loads fax objects from a UNIX tar disk; the floppy disk must contain files only (no directories) identified by relative path name. The `dosload` option loads fax objects from a high-density DOS-formatted disk; files must be in the root directory of the disk and include an extension (any extension is acceptable).

For example, to load objects from a DOS-formatted disk, insert the floppy in your MRS's floppy disk drive. Select the `dosload` option from the `/sci/files/fax` menu and follow the directions as the MRS prompts you, as shown below.

```
/sci/files/fax>  dosload
Insert the DOS floppy - type q to quit or hit ENTER to continue:
Retrieving JLSIGN.TIF
Retrieving JLFORM.TIF
```

```
Retrieving JLOGO.TIF
Retrieving JLDEF.TIF
/sci/files/fax>
```

When you load fax objects from floppy disk, they are placed in a temporary storage area. They are not assigned to a fax set until you explicitly assign them with the `form`, `sign`, or `logo` option. It is important to assign loaded objects; otherwise, when you exit the `/sci/files/fax` menu environment, all unassigned fax objects are removed from the MRS.

Listing unassigned fax objects

You can view unassigned fax objects at any time while in the `/sci/files/fax` environment by selecting the `view` option. As shown below, the SCI displays the files that have been loaded but not yet assigned to a fax set.

```
/sci/files/fax>  view
JLDEF.TIF   JLFORM.TIF  JLOGO.TIF   JLSIGN.TIF
/sci/files/fax>
```

Assigning a fax object to a fax set

You can store loaded, unassigned fax objects in a fax set for future use by selecting the `form`, `sign`, or `logo` option. The `form` option designates the object as a special form. The `sign` option identifies the specified object as a signature. The `logo` option designates the object as a logo.

When you select one of these options, the SCI prompts you to identify the fax set to which the object should be assigned (the default is fax set 1). Then, you are prompted to identify the name of the unassigned fax object and its destination.

For forms and signatures, you specify a number identifier (1–9999) for the destination. The SCI stores forms in the format "form*xxxx*.fax" and signatures as "sign*xxxx*.fax", where *xxxx* corresponds to the identifier you specify. Thereafter, you reference forms and signatures by their number, such as form 5, which corresponds to `form0005.fax`.

For logos, you specify a file name for the destination logo. The following example assigns object JLOGO.TIF to fax set 1 as LOGO1:

```
/sci/files/fax>  logo
Default Fax set to assign to = 1
  Fax set to assign to =
Enter the file to assign:  JLOGO.TIF
Enter the logo name to use:  logo1
```

```
sci/files/fax> map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait
  sign0005.fax     form0001.fax   vlogo   logo1
```

Listing the contents of a fax set

You can verify that all of the objects you need on the MRS have been assigned to the fax set by selecting the `map` option. The SCI prompts you to identify the fax set and then displays the name of each assigned fax object. The following example lists the contents of fax set 1, which contains a form, logo, and signature:

```
/sci/files/fax>  map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait  sign0001.fax
   form0010.fax         vlogo
/sci/files/fax>
```

Deleting a fax object

If necessary, you can delete a fax object from the MRS. Select the `delete` option. The SCI prompts you to identify the type of fax object to be deleted, the fax set where the fax object resides, and then the fax object to be deleted. In the example shown below, form 5 is deleted from fax set 1.

```
/sci/files/fax>  delete
Current type of object to delete?  = form
default- Defaults file.
form- Forms file.
sign- Signature file.
logo- Logo file.
  type of object to delete?  = form
Default Fax set to delete from = 1
  Fax set to delete from =1
Enter the form number to delete:  5
Ready to Delete Form 0005
Are you sure you wish to delete this file?
Current continue?  = yes
yes- Continue with operation.
no- Return to previous menu.
  continue?  = yes
```

Backing up a fax set

To back up your fax objects to floppy disk, use the `backup` option.

> ***Note:*** The floppy disk to which the fax set will be backed up should already have been prepared for backup with the `prepare` option of the `/sci/files` menu.

When you enter the `backup` option, the SCI prompts you to insert the floppy disk into the MRS's floppy disk drive and then to identify the fax set to be backed up. If necessary, the SCI prompts you for additional floppy disks. The following example illustrates backing up fax set 1, which currently contains four fax objects.

```
/sci/files/fax>  backup
Default Fax set to backup = 1
  Fax set to backup =
Backing up Forms Set to Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
seek = 0Ka /vrs/vsn/fax/form00/256logo 8K
seek = 8Ka /vrs/vsn/fax/form00/svlogo 12K
seek = 21Ka /vrs/vsn/fax/form00/vlogo 38K
seek = 59Ka /vrs/vsn/fax/form00/sign0001.fax 3K
```

> ***Note:*** If the amount of data to be backed up exceeds the capacity of the floppy disk, the MRS will prompt you to insert successive disks. Consequently, whenever you intend to do a backup, you should have additional formatted disks available.

For further information about your fax option, refer to the *Symposium OPEN IVR 4.0 Fax Option Guide*.

Speech Recognition vocabulary

For Speech Recognition technology to work, a vocabulary of words, phrases, or phonemes must be available on your MRS so that the recognizer resources can interpret caller speech. How the vocabulary is installed and used depends on the vocabulary. However, typically the following are implemented:

- Vocabulary files are installed on the MRS disks.
- Specific subvocabularies are assigned to specific recognizers (for example, by DSP).
- Each subvocabulary is associated with an index or MRS software ID (technology-dependent).

- Each vocabulary "token" on the AP is associated with an AP software ID (listed in the `mvrv.config` file).
- A VOCABMAP file on the MRS maps the AP software ID to the MRS software ID.
- A DTMFMAP file on the MRS maps ASR responses to specific DTMF digits.

The following sections briefly discuss how ASR vocabularies are handled.

Managing Antares-based ASR vocabularies

Installation of the Antares-based ASR options, such as PureSpeech and L&H, includes loading the associated vocabularies and rules/description files. However, before your ASR applications can perform automatic Speech Recognition, you must perform additional steps to set up the appropriate configuration.

Configuring ASR options

To configure ASR options, follow these steps.

1 Define the MRS software IDs associated with the loaded vocabularies.

2 Edit the `mvrv.config` file to define AP software vocabulary IDs to be associated with the vocabulary tokens used by AP software.

3 Create a `VOCABMAP` file to map the AP software vocabulary IDs defined in the `mvrv.config` file with the MRS IDs defined in step 1.

4 Create a `DTMFMAP` file to map ASR responses to DTMF digits (to be returned by the GDAT or MENU cell).

Note: For Antares-based ASR, default VOCABMAP and DTMFMAP files are supplied.

Defining the MRS software vocabulary IDs

While adding a Speech Recognition module, you are prompted to specify vocabulary IDs to be assigned to specific DSPs on that board. You can specify any IDs from 0 to 255.

Later, you can modify the vocabulary IDs assigned to each DSP by using the `listids` option. The following example changes the IDs assigned to the DSPs on an Antares board:

```
/sci/files/vocab/antares>  listids
Board #  Board Type            Board Type #
 1       ANTARES BOARD NUMBER   1
Enter the board number for the ids you wish to view 1
        Loaded on DSP1
        VOCAB IDS: 0

        Loaded on DSP2
        VOCAB IDS: 0 1 2

        Loaded on DSP3
        VOCAB IDS: 0 1 2

        Loaded on DSP4
        VOCAB IDS: 0
```

Editing the mvrv.config file

The `mvrv.config` file defines AP software vocabulary IDs to be associated with the vocabulary tokens used by AP software cells. This file is an ASCII file residing on the AP, and typically is located in the `/u/nortel/sys_files` directory. You can edit this file with the vi editor.

A portion of a sample `mvrv.config` file follows:

```
GRP_DUTCH          VOC_YESNO        D     5
GRP_ENGLISH        VOC_DIGITS       D     0
GRP_ENGLISH        VOC_YESNO        D     1
GRP_ENGLISH_CON    VOC_DIGITS       C     0
GRP_ENGLISH_CON    VOC_YESNO        C     1
GRP_FRENCH         VOC_DIGITS       D     8
```

The “GRP_*” tokens in the first column define the set of valid vocabulary groups; the “VOC_*” tokens in the second column define the set of valid vocabularies. The letter in the third column defines the type of recognizer resource associated with this vocabulary group/vocabulary pair, where “D” is for discrete or “C” for continuous. The number in the fourth column defines the vocabulary ID that is sent from AP software to MRS software in the recognition command.

Creating a VOCABMAP file

A `VOCABMAP` file is used to map the AP software vocabulary IDs to MRS software vocabulary IDs. You can view the current `VOCABMAP` file by using the `/sci/files/vocab/antares/listidmap` option. An example follows:

```
/sci/files/vocab/antares>  listidmap purespeech

0 /usr/local/purespeech/test/1digit.ini
```

Use the `/sci/files/vocab/antares/editidmap` option to create a new file. This option opens the current file with the vi editor. `Editidmap` places the user in the editor and allows the user to edit the file.

Creating a DTMFMAP file

A `DTMFMAP` file maps VCS responses to DTMF digits to be returned by the GDAT or MENU cell. This file is used on a per vocabulary ID basis. These files can by viewed or replaced by using tools provided by SCI.

Use the `/sci/files/vocab/antares/listdtmfmap` option to view the `DTMFMAP` file. A sample follows:

```
/sci/files/vocab/antares>  listdtmfmap
Current Vendor?  = vcs_antares
vcs_antares - Antares DSP board
purespeech  - Purespeech vocabulary map.
hark        - Hark vocabulary map.
lh          - L & H vocabulary map.
        Vendor?  =
Please enter the vocab id number:  1
“0”   1
“1”   2
```

Use the `/sci/files/vocab/antares/editdtmfmap` option to identify the response string, then the DTMF character to be reformed. This creates a new file or overwrites an existing file.

Managing VCS VR/160-based ASR vocabularies

If the VCS VR/160-based ASR option is installed, you can use the SCI to manage the group of words that the MRS will use to process speech. These words are grouped in a vocabulary set. Different vocabulary sets are available for use with different languages around the world.

Each vocabulary set consists of one or more subvocabularies. Because the SCI identifies these subvocabularies as “indexes,” this manual will refer to a subvocabulary as an index.

Each index identifies a specific group of words that the Speech Recognition resources will attempt to recognize. You can change the vocabulary set that is installed on the MRS, as well as enable or disable each of the indexes. However, the MRS supports only one vocabulary set at a time.

For example, the default vocabulary set is “North American English.” This vocabulary consists of the subvocabularies North American (NA) English Digits and the North American English Yes/No. Each of these indexes is identified by an ID number; in this case 0 and 1, respectively.

Interactions between Symposium OPEN IVR and vocabulary sets

If your application call flow enables voice input, the Speech Recognition resources will attempt to interpret a caller’s verbal response to prompts. The MRS returns a recognition result (such as a word or phrase, depending on the speech technology) to AP software on the AP for further processing.

Managing vocabularies

The `vocab` menu, listed below, includes options that allow you to list assigned indexes, delete an index, load a new vocabulary, assign the loaded indexes, and enable or disable an index. Each of these options is described in Chapter 7, “Command reference.”

> ***Note:*** If you load a new vocabulary set, each subvocabulary, or index, must be assigned and enabled before it can be used by Symposium OPEN IVR. Also, when you exit the `vocab` menu, any indexes that were loaded but not added are removed from the MRS.

```
/sci/files>  vocab
vr160        - Perform vr/160 vocabulary management functions.
antares      - Perform antares vocabulary management functions.
done         - Return to the previous menu.
cancel       - Return to the previous menu without saving
changes.
```

Loading a new vocabulary set

> ***Note:*** The commands for managing ASR vocabularies differ between technologies. This section illustrates the VR/160-based ASR. For Antares-based ASR, refer to Chapter 7, “Command reference.”

You can load a new vocabulary set and all of its indexes from either a UNIX-TAR disk or a DOS disk by inserting the disk in the MRS’s floppy disk drive and selecting the `load` or `dosload` option, respectively. However, because the MRS software supports only one vocabulary set at a time, you should delete all of the installed subvocabularies before loading a new vocabulary set by using the `delete` option.

Initially, after loading a new vocabulary set, all of its indexes are unassigned. The indexes that you intend to use must be assigned with the `add` option before you exit the `vocab` menu; otherwise they will be removed from the MRS. You can view the unassigned indexes by selecting the `view` option.

An assigned index is stored on the MRS, but is not available for use by Symposium OPEN IVR and the MRS until it has been enabled with the `enable` option. You can list enabled indexes by using the `list` option.

Changing the VCS VR/160-based vocabulary set

To change the vocabulary set to be used by Speech Recognition, select the `change` option from the `/sci/files/vocab` menu. You identify the new vocabulary to be used and whether it is discrete or continuous, as shown in this example:

```
/sci/files/vocab/vr160>  change
Please enter the recognizer number :  1
  ID DESCRIPTION                    TYPE SIZE NAME
   0 NA English Digits              disc 12   naengstd
   1 NA English Yes/No              disc 5    naengstd
   0 NA English Digits              cont 11   naengstd
   1 NA English Yes/No              cont 2    naengstd
Default Enter the new Vocabulary ID = 0
        Enter the new Vocabulary ID =  1
Current Type of vocabulary?  = discrete
continuous  - Continuous vocabulary.
discrete    - Discrete vocabulary.
        Type of vocabulary?  = c
```

Managing the vocabulary map

Each vocabulary index contains a list of words and the corresponding hexadecimal values that will be returned to Symposium OPEN IVR once the MRS has interpreted a caller's voice input. This list is the vocabulary map. You can view the current map by using the `maplist` option (as follows) and modify the hexadecimal values to be returned to Symposium OPEN IVR by using the `mapedit` option.

```
/sci/files/vocab/vr160>  maplist
Please enter the vocabulary ID for maplist:  0
Current Type of vocabulary?  = discrete
continuous  - Continuous vocabulary.
discrete    - Discrete vocabulary.
        Type of vocabulary?  =
Entry     Result   Text
    0.   0x1 ( 1)  one
    1.   0x2 ( 2)  two
    2.   0x3 ( 3)  three
    3.   0x4 ( 4)  four
    4.   0x5 ( 5)  five
    5.   0x6 ( 6)  six
    6.   0x7 ( 7)  seven
    7.   0x8 ( 8)  eight
    8.   0x9 ( 9)  nine
    9.   0xA (10)  zero
   10.   0xA (10)  oh
   11.   0xF (15)  stop
```

Saving your changes to the vocabulary configuration

If you modify the Speech Recognition vocabulary configuration, you can either save the new configuration by selecting the `done` option or exit the `vocab` menu without saving the changes by selecting the `cancel` option.

ASCII characters sent during digit collection

During the digit collection process, the caller either issues a DTMF or MF tone (typically by pressing a key on the phone keypad) or, if the Speech Recognition option is available, speaks a word presumably in the Speech Recognition vocabulary. In both cases, the MRS returns a reply consisting of an ASCII character according to the detected word/tone. Table 4-2 lists the relationship between word/tone detected and the ASCII character that is sent in the reply

.

Table 4-2: Relationship between word, tone, and ASCII

Word spoken	DTMF digit	MF digit	ASCII character sent
one	1	1	1
two	2	2	2
three	3	3	3
four	4	4	4
five	5	5	5
six	6	6	6
seven	7	7	7
eight	8	8	8
nine	9	9	9
zero or oh	0	0	A
TBD	*	ST	B
TBD	#	ST1	C
yes	A	ST2	D
no	B	ST3	E
TBD	C	FALSE	F
TBD	D	KP	0

Text-to-Speech exception dictionary

If you have a Text-to-Speech module installed in your MRS, you can customize how words are pronounced by loading an exception dictionary. Access the specific Text-to-Speech technology (L&H or Centigram) from the `/sci/files/tts` menu to display several options for loading, assigning, and viewing exception dictionaries.

With L&H TTS, you assign an exception dictionary to the L&H TTS module. Centigram TTS uses a single file for the entire system.

ACD agent file

Trunks on your MRS can be configured to emulate an ACD agent for retrieving calls from an Automatic Call Distribution (ACD) phone system. If sequential agent IDs are available and are a maximum of four digits long, the agent IDs are defined by the sum of the channel ID and the base agent ID set in the trunk type file's `acdgroup` parameter.

However, in situations where nonsequential agent IDs must be used or the ID must be more than four digits long (can be as long as eight digits), the agent IDs can be accessed from the `agents` file stored on your MRS. (The `acdgroup` parameter must be set to 0xFFF to point to this file.)

The `agents` file can be viewed and edited by selecting the `agent_id` option from the `/sci/files` menu. For further information about modifying this file and about ACD support, see Appendix C, "ACD Logon/Logoff support."

Preparing a floppy disk for backup

To format a floppy disk for use in backing up VSN files or a fax set, use the `prepare` option from the `/sci/files` menu, as illustrated below.

> ***Note:*** You must use a 3.5-inch, high-density floppy disk to perform a backup. Be certain the write-protect tab is in the appropriate position on the disk.

```
/sci/files>  prepare
*****************************************************
WARNING - You are about to format the floppy
disk in the MRS floppy drive.
*****************************************************
Are you sure you wish to continue? y
Insert floppy in drive; press <RETURN> when ready
formatting /dev/rdsk/f0q18d ...
  track 79  head 1
done
verifying /dev/rdsk/f0q18d ...
  track 79
done
```

Backing up a file

You can easily back up files stored on the MRS. To back up a VSN file, see “Backing up VSNs” on page 4-9. To back up a fax set, see “Backing up a fax set” on page 4-17.

Restoring files

You can restore any VSN files or fax sets that were previously backed up on the MRS. To restore files to the MRS from a backup disk, use the `restore` option on the `/sci/files` menu, as illustrated below.

```
/sci/files>  restore
Restoring Data Files from Backup Floppy Please Insert the First
Disk and Strike any Key to Continue (or q to quit)

x /vrs/vsn/fax/defaults/def01, 354 bytes, 1K
x /vrs/vsn/fax/form01/256logo, 7564 bytes, 8K
x /vrs/vsn/fax/form01/svlogo, 12002 bytes, 12K
x /vrs/vsn/fax/form01/vlogo, 38150 bytes, 38K
x /vrs/vsn/fax/form01/sign0001.fax, 2774 bytes, 3K
x /vrs/vsn/fax/form01/ps, 46184 bytes, 46K
x /tmp/tar.last_file, 0 bytes, 0K
Done Reading Files
```

Chapter 5: License manager

Overview

Symposium OPEN IVR incorporates a software license manager to provide run-time access protection to the telephony resources and options that you purchase and install on your MRS.

This chapter presents

- an overview of the license manager
- a description of the license manager administrative tools

The software license manager consists of a Nortel keylock daemon, a license file, and a license manager security keylock. The license file identifies software and system licenses that are available, the number of copies that can be used, and the expiration dates. The security keylock is checked to ensure that it corresponds to the NTKEYCODE in the license file.

Each MRS has a license file, a license manager server, which together define the resources that are licensed to run on that specific MRS, and a license manager security keylock. Each MRS's license manager is completely independent of any and all other license managers on other MRSs, APs, and/or any other hosts on the network (which may or may not exist). For example, license checkout requests made by the MRS software on a given MRS are processed by the license manager on that MRS. Whenever you upgrade the licensed products on your system, you will need to load a new license file (see "Loading a license file" on page 5-11).

The license manager server daemon is automatically started when the MRS is booted. The server daemon reads the license file to determine the number of channels for each option that can be run. When MRS software is started, a connection is established to the server daemon; a license is checked for each channel of each configured option in the system and the license manager security keylock is checked for a match to the license file's NTKEYCODE.

License manager security keylock

The license manager software checks every two minutes to ensure that the security keylock is in place.

If the check fails at IVR start-up, an error message is logged indicating that the keylock was absent on IVR start-up. If IVR AP software fails the start-up license check, the IVR AP software fails to start. If the IVR MRS software fails the start-up license check, IVR MRS software starts, but without any resources.

If, after successful start-up, the check fails during subsequent periodic checks, an information message is logged indicating that the keylock was absent during a license check. Any running applications which previously passed a licensing check and successfully checked out resources continue to run successfully independently of the success or failure of licensing checks by other applications. Any applications which fail to pass a licensing check will not start up successfully.

License manager administrative tools

You can perform a variety of administrative and diagnostic functions for the license manager by accessing the `license` option from the `/sci/admin` menu.

```
/sci/admin>  license
load         - Load a new license file from floppy.
display      - Display the license file.
hostid       - Display system hostname and hostid.
avail        - Display all licenses available.
active       - Display all licenses currently active.
restart      - Restart the license manager.
checkout     - Checkout all licenses and report status.
status       - Display the license manager status.
version      - Display the license manager version.
log          - Display the license manager event log.
done         - Return to the previous menu.
```

Table 5-1 provides a description of each option.

Table 5-1: SCI menu options

Option	Function
load	Loads a new license file from a disk. This option is generally used when you install an upgraded license file.
display	Displays the contents of the license file.
avail	Displays a listing of all licenses in the license file.
active	Displays all licenses that are currently active.
restart	Shuts down and then restarts the license manager server daemon. Note that the server daemon can be successfully restarted even though there are problems in either the license file or the license manager configuration. Successful start-up of the daemon therefore does not guarantee that MRS can check out the licenses it needs to run. Check the `license manager log` option after the server daemon is started to determine whether any problems occurred. The option `restart` is not used for normal license manager administration; therefore, its use is restricted to Nortel Customer Service or authorized service personnel.
checkout	Checks out all licenses and reports status. The `checkout` option attempts to check out a single license for each resource listed in the license file; a complete test is performed to determine whether a license can be checked out (that is, whether MRS can check out each license). The `checkout` function is performed automatically when the license manager is installed. Entries are made in the license eventlog for each license for which a checkout is attempted. ***Note*:** Invoke this option only when MRS is *not running*; otherwise, the MRS firmware checks out all the licenses, and the checkout attempt fails.
status	Displays status information about the license manager server, such as execution status of the server daemon, a list of all licenses available on the MRS, and a list of all currently checked-out licenses. Note that the information displayed by specifying the option `active` is a subset of the information displayed by the option `status`.

Option	Function
version	Displays the version number of the license manager daemon.
log	Displays the license manager event log. The event log is a text file that contains one entry for each license manager event. The entry includes daemon start-ups and shutdowns, license checkouts, license check-ins, denied checkout requests, and a listing of problems that occurred. The log file is automatically truncated to the most recent 100 lines every time the server daemon is restarted (that is, when the system is booted and whenever the `restart` option from this `sci` menu is invoked). The `log` option pipes its output through the page command; the ":" prompt is replied to with "$", thus skipping to and displaying the last screen of lines in the log.
done	Returns you to the previous menu.

Displaying the available licenses

The `avail` option displays information about all of the available licenses for that MRS, as defined by the loaded license file.

```
/sci/admin/license>  avail
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Tue 6/10/97 12:14

Feature                 Version  # licenses   Expires   Vendor
_______                 _______ ___________   _____    ______
genTSP-odt-runtime      9.999       1         1-jan-0   vtek
genTSP-odt-telephone-d  9.999       9999      1-jan-0   vtek
genTSP-odt-fax-b        9.999       9999      1-jan-0   vtek
genTSP-odt-fax-g        9.999       9999      1-jan-0   vtek
genTSP-odt-asr-vc       9.999       9999      1-jan-0   vtek
genTSP-odt-asr-vd       9.999       9999      1-jan-0   vtek
genTSP-odt-asr-vdt      9.999       9999      1-jan-0   vtek
genTSP-odt-asr-pc       9.999       9999      1-jan-0   vtek
genTSP-odt-asr-pl       9.999       9999      1-jan-0   vtek
genTSP-odt-asr-pp       9.999       9999      1-jan-0   vtek
genTSP-odt-asr-h        9.999       9999      1-jan-0   vtek
genTSP-odt-tts-c        9.999       9999      1-jan-0   vtek
genTSP-odt-tts-l        9.999       9999      1-jan-0   vtek
genTSP-odt-dpd          9.999       48        1-jan-0   vtek
genTSP-odt-ccs          9.999       9999      1-jan-0   vtek
genTSP-odt-ups          9.999       9999      1-jan-0   vtek
```

```
genTSP-odt-diskmirror   9.999       9999      1-jan-0   vtek
genTSP-odt-volumes      9.999       9999      1-jan-0   vtek
genAP-odt-runtime       9.999       9999      1-jan-0   vtek
genAP-odt-development   9.999       9999      1-jan-0   vtek
genAP-odt-promptmanager 9.999       9999      1-jan-0   vtek
genAP-odt-telephone     9.999       9999      1-jan-0   vtek
genAP-odt-fax           9.999       9999      1-jan-0   vtek
genAP-odt-asr           9.999       9999      1-jan-0   vtek
genAP-odt-tts           9.999       9999      1-jan-0   vtek
genAP-odt-cellbuilder   9.999       2         1-jan-0   vtek
genAP-odt-sqlingres     9.999       9999      1-jan-0   vtek
genAP-odt-sqloracle     9.999       9999      1-jan-0   vtek
genAP-odt-sqlsybase     9.999       9999      1-jan-0   vtek
genAP-odt-sqlinformix   9.999       9999      1-jan-0   vtek
genAP-odt-host3270      9.999       9999      1-jan-0   vtek
genAP-odt-host5250      9.999       9999      1-jan-0   vtek
genAP-odt-hostvt100     9.999       9999      1-jan-0   vtek
genAP-odt-adsi          9.999       9999      1-jan-0   vtek
genAP-odt-snmp          9.999       9999      1-jan-0   vtek
genTSP-odt-snmp         9.999       9999      1-jan-0   vtek
```

Note: If the license manager has not been restarted (`restart` option from this menu) since it was last updated, the information displayed by `avail` may not reflect the current state of the license manager. Whenever loading a new license file, be sure to reset the MRS software using the `reset` option on the `/sci` menu.

Displaying the licenses currently in use

The `active` option displays all of the licenses that are currently in use by the MRS software (or any other party using this instance of the license manager) on your MRS.

```
/sci/admin/license>  active
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Wed 11/8/95 08:46

License server status (License file: 10050@localhost):

vk00000.de: license server UP (MASTER)

Vendor daemon status (on vk00000.default.com):

      vtek (v3.x): UP

Feature usage info:

Users of genTSP-odt-volumes:  (Total of 24 licenses available)
```

```
  ìgenTSP-odt-volumesî v4.000, vendor: vtek
  24 floating licenses

    root vk00000.default.com /dev/tty (v4.00)
(vk00000.default.com/10050 102), start Tue 11/7 15:34, 2
licenses
```

Restarting the license manager

If the license manager server becomes corrupted, you need to kill the license manager daemon and start a new instance of the daemon. To do this, select the `restart` option. The license manager will reread the current license file. If new licenses have been added by loading a new license file since the last time the MRS software was reset, the new licenses will not take effect until you reset the MRS software (`reset` option from the `/sci` menu).

```
/sci/admin/license>  restart
lmdown - Copyright (C) 1989-1994 Globetrotter Software, Inc.

Shutting down FLEXlm on nodes: vk00000.default.com
Are you sure? [y/n]: Shut down FLEXlm server on node
vk00000.default.com
    1 FLEXlm License Server shut down
```

Checking out each license

The `checkout` option reviews each of the available licenses and reports any errors. (During installation of the license manager, the checkout procedure is automatically performed.)

```
/sci/admin/license>  checkout
lmdiag - Copyright (C) 1989-1994 Globetrotter Software, Inc.
FLEXlm diagnostics on Wed 11/8/95 08:48

-------------------------------------------------------------
License file: 10050@localhost
-------------------------------------------------------------
ìgenTSP-odt-telephoneî v4.000, vendor: vtek
  License server: vk00000.default.com
  99 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
ìgenAP-odt-developmentî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-asrî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-faxî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
```

```
ìgenTSP-odt-ttsî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-dmxî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-volumesî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-ccsî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-upsî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
ìgenTSP-odt-diskmirrorî v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96
```

```
This license can be checked out
-----------------------------------------------------
```

Displaying the run-time status of the license manager server

The `status` option displays the run-time status of the license manager server daemon.

```
/sci/admin/license>  status
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Wed 11/8/95 08:49

License server status (License file: 10050@localhost):

vk00000.de: license server UP (MASTER)

Vendor daemon status (on vk00000.default.com):

      vtek (v3.x): UP

Feature usage info:

Users of genTSP-odt-telephone:  (Total of 99 licenses available)


Users of genAP-odt-development:  (Total of 24 licenses
available)


Users of genTSP-odt-asr:  (Total of 24 licenses available)
Users of genTSP-odt-fax:  (Total of 24 licenses available)

Users of genTSP-odt-tts:  (Total of 24 licenses available)

Users of genTSP-odt-dmx:  (Total of 24 licenses available)


Users of genTSP-odt-volumes:  (Total of 24 licenses available)

  ìgenTSP-odt-volumesî v4.000, vendor: vtek
  24 floating licenses

    root vk00000.default.com /dev/tty (v4.00)
(vk00000.default.com/10050 111), start Wed 11/8 8:48, 2 licenses

Users of genTSP-odt-ccs:  (Total of 24 licenses available)
```

```
Users of genTSP-odt-ups:  (Total of 24 licenses available)


Users of genTSP-odt-diskmirror:  (Total of 24 licenses
available)
```

Displaying the license manager version

To identify which version of the license manager is installed on your MRS, select the `version` option.

```
/sci/admin/license>  version
lmver - Copyright (C) 1989-1994 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1994, Globetrotter Software, Inc.0
FLEXlm 4.1 (lmgr_s.a), Copyright (C) 1988, 1993 Globetrotter
Software, Inc.
FLEXlm 4.1 (lmgr.a), Copyright (C) 1988-1994 Globetrotter
Software, Inc
```

Displaying the license manager event log

To display license-related events and errors that have already occurred, select the `log` option.

```
/sci/admin/license>  log
 8:47:48 (lmgrd) FLEXlm (v4.1) started on vk00000.default.com
(sco i80486/ISA) (11/8/95)
 8:47:48 (lmgrd) FLEXlm Copyright 1988-1994, Globetrotter
Software, Inc.
 8:47:48 (lmgrd) License file: ì/usr/vrs/lm/license.datî
 8:47:48 (lmgrd) Starting vendor daemons ...
 8:47:48 (lmgrd) Started vtek
 8:47:48 (vtek) Server started on vk00000.default.com for:
genTSP-odt-telephone
 8:47:48 (vtek) genAP-odt-development genTSP-odt-asr
genTSP-odt-fax
 8:47:48 (vtek) genTSP-odt-tts  genTSP-odt-dmx
genTSP-odt-volumes
 8:47:48 (vtek) genTSP-odt-ccs  genTSP-odt-ups
genTSP-odt-diskmirror
 8:48:21 (vtek) Updating feature genTSP-odt-telephone
 8:48:21 (vtek) Updating feature genAP-odt-development
 8:48:21 (vtek) Updating feature genTSP-odt-asr
 8:48:21 (vtek) Updating feature genTSP-odt-fax
 8:48:21 (vtek) Updating feature genTSP-odt-tts
 8:48:21 (vtek) Updating feature genTSP-odt-dmx
 8:48:21 (vtek) Updating feature genTSP-odt-volumes
 8:48:21 (vtek) Updating feature genTSP-odt-ccs
 8:48:21 (vtek) Updating feature genTSP-odt-ups
```

```
 8:48:21 (vtek) Updating feature genTSP-odt-diskmirror
 8:48:37 (vtek) OUT: genTSP-odt-telephone
root@vk00000.default.com
 8:48:37 (vtek) IN: genTSP-odt-telephone
root@vk00000.default.com
 8:48:40 (vtek) OUT: genAP-odt-development
root@vk00000.default.com
 8:48:40 (vtek) IN: genAP-odt-development
root@vk00000.default.com
 8:48:42 (vtek) OUT: genTSP-odt-asr root@vk00000.default.com
 8:48:42 (vtek) IN: genTSP-odt-asr root@vk00000.default.com
 8:48:42 (vtek) OUT: genTSP-odt-fax root@vk00000.default.com
 8:48:42 (vtek) IN: genTSP-odt-fax root@vk00000.default.com
 8:48:43 (vtek) OUT: genTSP-odt-tts root@vk00000.default.com
 8:48:43 (vtek) IN: genTSP-odt-tts root@vk00000.default.com
 8:48:44 (vtek) OUT: genTSP-odt-dmx root@vk00000.default.com
 8:48:44 (vtek) IN: genTSP-odt-dmx root@vk00000.default.com
 8:48:45 (vtek) OUT: genTSP-odt-volumes root@vk00000.default.com
 8:48:45 (vtek) IN: genTSP-odt-volumes root@vk00000.default.com
 8:48:46 (vtek) OUT: genTSP-odt-ccs root@vk00000.default.com
 8:48:46 (vtek) IN: genTSP-odt-ccs root@vk00000.default.com
 8:48:46 (vtek) OUT: genTSP-odt-ups root@vk00000.default.com
 8:48:46 (vtek) IN: genTSP-odt-ups root@vk00000.default.com
 8:48:47 (vtek) OUT: genTSP-odt-diskmirror
root@vk00000.default.com
 8:48:47 (vtek) IN: genTSP-odt-diskmirror
root@vk00000.default.com
 8:48:53 (vtek) OUT: genTSP-odt-volumes root@vk00000.default.com
(2 licenses)
```

Loading a license file

Use this procedure to load a new license file. All license files are installed from the AP using a shell script utility named `install_licenses`.

> ***Note:*** The license file is generated by Nortel, whether for initial installations or for upgrades.

To load a new license file, follow these steps.

1. On the AP, in a Unix shell, log in as `root`.
2. Insert the license file disk into the floppy drive on the AP or MRS/AP.
3. Type **`install_licenses`** and press <Enter>.

   When all systems are updated, a success message is displayed.
4. Remove the license file disk from the floppy drive.

5 Restart the OPEN IVR system.

The license takes effect upon startup.

Diagnosing a license manager problem

If a problem occurs, you can determine whether or not the problem is related to the license manager by following these steps.

1 Review the MRS event log by navigating to the `/sci/log` menu option. The MRS is a client of the license manager server daemon.

2 Look at the host ID of the MRS (`/sci/admin/license/hostid` option) and the licenses that are available for that MRS (`/sci/admin/license/avail` option).

3 Check out each license using the `/sci/admin/license/checkout` option while the MRS is not running.

Note: The `/sci/admin/license` menu is accessible only when the license manager is installed locally. If you have any questions about this, contact your Nortel customer service representative.

License-related problems that you may encounter are listed in Table 5-2.

Table 5-2: License-related problems

Problem/Issue	Solution
Loaded licenses available but not recognized	Reset the MRS software (select the `reset` option from the `/sci` menu).
Need to determine current version of license manager daemon	Select the `version` option from the `/sci/admin/license` menu.
Need to determine the current run status of the license manager daemon	Select the `status` option from the `/sci/admin/license` menu.
Need to determine what events and errors have occurred	Select the `log` option from the `/sci/admin/license` menu to display all events and errors that occurred since the license manager was restarted or the MRS was rebooted.

Problem/Issue	Solution
A license is not available after rereading the license file	Load a copy of the license file from floppy disk using the `load` option on the `/sci/admin/license` menu.

Chapter 6: Setup menu

Overview

This chapter describes how users with advanced training can modify the MRS setup using the `/sci/setup` menu options:

- modifying the factory configuration
- activating or deactivating system modules
- accessing the `/sci/setup` menu
- displaying activated hardware resources
- UPS, Disk Mirroring, and CCS options
- adding or deleting the switching matrix
- adding or deleting trunk groups
- modifying the Fax setup
- adding or deleting Text-to-Speech boards
- modifying the automatic speech recognition services
- adding or deleting dial pulse detection boards
- saving your changes
- canceling your setup session

Modifying the factory configuration

You can modify the factory configuration of your MRS by adding or removing option modules. However, besides installing or removing the associated module(s) and software, you also have to activate or deactivate the module, and then reboot the MRS in order for the new configuration to take effect.

For most installations, the activation or deactivation is performed by calling your Nortel customer support representative to modify the system setup. Often this can be done remotely over the phone line and modem. However, if you have been trained by Nortel customer service, you can do this procedure yourself.

> ***Note:*** Activating a system module is different from enabling a module. Activating a module adds that module to a list of system resources. Enabling a module makes it available to applications that are currently running on the AP. Only an activated module can be enabled (default) or disabled. Deactivating a module removes it from the list system resources. This text often specifies "add" and "delete" to mean "activate" and "deactivate," respectively.

Activating or deactivating system modules

MRS modules are activated (added) or deactivated (deleted) by using various options from the `/sci/setup` menu. For security reasons, the `/sci/setup` menu is available only to the service SCI account.

Accessing the /sci/setup menu

To access the `/sci/setup` menu, follow these steps.

1. Log in to the SCI as **`service`**.
2. Once the SCI main menu is displayed, select **`setup`** from the `/sci` menu as shown below.

```
   MRS/Tower Service Console
        For MRS Revision 4.00
          (c) Nortel Inc
sci      : Revision 4.00
config     - Display & modify system configuration
                 parameters.
setup       - Display & modify the current hardware setup.
log        - Display the system event log.
files      - Perform file management functions.
```

```
 status     - Perform system status functions.
 reset      - Perform a full MRS reset.
 install    - Perform software installation functions.
 diag       - Perform system diagnostics functions.
 admin      - Perform account administration functions.
 maint      - Perform system maintenance functions.
 quit       - Log out of the service console.
 /sci>
```

The following example displays the `/sci/setup` menu of options.

```
/sci>  setup
hwsetup      - Display the current hardware setup.
options      - Add or delete system options.
switch       - Add or delete the switching matrix.
trkbrd       - Add or delete trunk groups.
syscfg       - Modify system configuration.
restart      - Save changes and restart the system.
done          - Save changes and return to the previous
                menu.
cancel       - Return to the previous menu without saving
                changes.
/sci>  setup
```

Displaying activated hardware resources

To display the hardware resources that are currently installed and activated in your MRS, select the `hwsetup` option. The following example lists the available resources.

```
/sci/setup>  hwsetup
    UPS Option = disabled
    Disk Mirroring Option = disabled
    CCS Option = disabled
    Number of Trunks per DCM = 3
    Dialogic xfer buffer size = 16K buffers
    Busyout Replies = enabled
    Ring Detection Reply = Auto Detection
    Wink Bit Mask = 0x11

TRUNK GROUPS INSTALLED
   trunk group  1 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group  2 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group  3 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
   trunk group  4 at I/O 000 RAM D0000 type d160sc-ls on SCBUS

TTS BOARDS/DSPs INSTALLED
  ANTARES  1 DSP 1 Centigram English TTS         2 ports
  ANTARES  1 DSP 2 Centigram English TTS         2 ports
  ANTARES  1 DSP 3 Centigram English TTS         2 ports
  ANTARES  1 DSP 4 Centigram English TTS         2 ports
```

Although the UPS (Uninterruptible Power Supply), Disk Mirroring, and CCS (Country Configurable Services) are software options with no installed modules, they are included in this listing. In this example, these options have not been loaded on the MRS. Also, there are 2 trunk groups on PEB 0 and 4 fax groups on PEB 1.

> ***Note:*** To access installation information (for example, I/O address, IRQ, and shared memory range specifications) for different hardware options, refer to the corresponding Symposium OPEN IVR option guide.

UPS, Disk Mirroring, and CCS options (Release 2.x hardware only)

The UPS, Disk Mirroring, and CCS options on Release 2.x hardware are managed differently from other MRS resources. There are no hardware modules to be installed and activated. Only the corresponding software has to be loaded.

The MRS hardware resources are normally disabled or enabled using the `/sci/config` menu options. But these software options are enabled/disabled from the `/sci/config` menu by using the `syscfg` option. The SCI displays the current status of each of these software options, and prompts you to disable or enable the resource. Of course, the associated software should already be loaded on your MRS.

```
/sci/setup>  syscfg

Enter the desired number of trunk groups per DCM
The recommended value is 3
Default Number of trunk groups per DCM = 3
        Number of trunk groups per DCM =

Enter the Dialogic xfer buffer size (0=16K ,1=8K, 2=4K)
The recommended value is 0
Default Xfer buffer size = 0
        Xfer buffer size =

Current Force busy and unbusy command replies = enabled
enabled    - Enable busy and unbusy replies
disabled   - Disable busy and unbusy replies
        Force busy and unbusy command replies =
Default Timeout value for replies = 120
        Timeout value for replies =

Enter the desired ring detect response (0-auto, 1-B0, 2-D0)
The recommended value is 0
Default Ring detect response = 0
        Ring detect response =
Default Wink Bit Mask = 0x11
        Wink Bit Mask =

Current UPS Option = disabled
enabled    - UPS support enabled
disabled   - UPS support disabled
        UPS Option =

Current Disk Mirroring Option = disabled
alert     - Disk Mirroring is enabled with alarm notification
enabled    - Disk Mirroring is enabled
disabled   - Disk Mirroring is disabled
        Disk Mirroring Option =

Current CCS Option = disabled
enabled    - CCS server is required
disabled   - CCS server is not required
        CCS Option =
```

Adding or deleting the switching matrix

To add or remove the switching matrix capability, follow thes steps.

1 Select the `switch` option, as shown in this example.

```
/sci/setup>  switch
Current Switching Option Does Not Exist - Add it? = cancel
add          - Add a new entry.
cancel       - Do not add the new entry.
Switching Option Does Not Exist - Add it? = add
```

Once the switching option is enabled, the features that involve call switching are allowed. These IVR Developer cells use the switching option BOUT and CONP.

2 To delete an activated switching matrix, select the `switch` option and specify `delete` when prompted.

```
/sci/setup>  switch
Please Enter the switching board number to edit = 1
Current Switching Exists Delete it? = cancel
delete- Delete this entry.
cancel- Do not delete this entry.
Switching Exists - Delete it? = delete
```

Adding or deleting trunk groups

If you install or remove network interface modules, you will need to add or delete the corresponding trunk groups from the available MRS resources. To do this, select the `trkbrd` option.

Table 6-1 lists the number of channels that are typically assigned per trunk group for various types of network interface modules. For example, for each 4 analog channels, you would assign a trunk group. A 12-port loopstart card would require setting up 3 trunk groups, whereas a 30-channel E1 card should be added with 4 trunk groups.

Table 6-1: Typical number of trunk groups per network interface

Network interface	Number of channels per trunk group
Analog	4
T1	6

Network interface	Number of channels per trunk group
E1	8 for 30 channels 16 for 60

Note: When adding network interface boards to your system, care must be taken in identifying the master/slave/resource (for example, with T1 modules).

In an SCbus environment, the network cards are configured as follows:

- D/160SC-LS - first card master, remaining resource
- D/41ESC - first card master, remaining resource
- D/240SC-T1 - first card slave, remaining resource

In a PEB environment, a network interface board on one PEB can be configured as the master, and a board on another PEB can be configured as the slave.

The following example adds a T1 card and designates it as the bus master:

```
/sci/setup>  trkbrd
Please enter the trunk group number to edit =  1
Current Trunk Group Does Not Exist - Add it? = cancel
add         - Add a new entry.
cancel      - Do not add the new entry.
        Trunk Group Does Not Exist - Add it? = add
Current Board Type = d160sc-ls
acl30       - Aculab 30 port E1/ISDN Network Card.
acl60       - Aculab 60 port E1/ISDN Network Card.
aclbri      - Aculab BRI ISDN with D/240SC Span Card.
d160sc-ls   - A D/160SC-LS 16 channel Loopstart Card.
d240sc-t1   - A D/240SC-T1 high density T1 Span Card.
d240sc-t1gc - 23 port PRI ISDN with D/240SC-T1 Span Card
d300sc-e1gc - 30 port PRI ISDN with D/300SC-E1 Span Card
dti301sc-e1g- 30 port CAS with DTI/301SC and D/320SC Span Cards
d4xe        - A D4xE Interface & Springboard.
default     - A D/160SC-LS 16 channel Loopstart Card.
        Board Type = d240sc-t1
Default Board Base RAM Address in hex = 0xD0000
        Board Base RAM Address in hex =
Current Type of clocking to use? = slave
slave       - Extract clock from the T-1 line
resource    - Allow resource boards to control clocking
master      - Use the internal clock
default     - Extract clock from the T-1 line
        Type of clocking to use? = master
Default Board Locator address in hex = 0x0
        Board Locator address in hex =
Current Type of data encoding to use? = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Type of data encoding to use? =
```

The following example shows that initially the MRS is configured with trunk groups 1 and 2 on a 12-port loopstart network interface module. Trunk group 3 is added by using the `trkbrd` option.

```
/sci/setup>  hwsetup
    UPS Option = disabled
    Disk Mirroring Option = disabled
    CCS Option = disabled

TRUNK GROUPS INSTALLED
    trunk group  1 at I/O 344 RAM D0000 type lsi12x on PEB 0
    trunk group  2 at I/O 344 RAM D0000 type lsi12x on PEB 0

FAX BOARDS INSTALLED
```

```
    fax  1 on PEB 1
    fax  2 on PEB 1
    fax  3 on PEB 1
    fax  4 on PEB 1

/sci/setup>  trkbrd
Please enter the trunk group number to edit =  3
Current Trunk Group Does Not Exist - Add it? = cancel
add          - Add a new entry.
cancel       - Do not add the new entry.
        Trunk Group Does Not Exist - Add it? = add
Default PEB Number = 0
        PEB Number =
Current Board Type = lsi12x
lsi12x       - A LSI/12x with a D12x Springboard.
did12x       - A DID/12x with a D12x Springboard.
dti101       - A DTI/101 with a D12x Springboard.
dti211       - A DTI/211 with a D12x Springboard.
dti212       - A DTI/212 with a D8x Springboard.
d240sc-t1    - A D/240SC-T1 high density Span Card.
acl30        - ACCULAB 30 port E1 with D8x Springboards.
acl60        - ACCULAB 60 port E1 with D8x Springboards.
bri8         - 8 port BRI ISDN with D8x Springboards.
lsi8x        - An LSI/8x with a D8x Springboard.
d4xe         - A D4xE Interface & Springboard.
d4xd         - A D4xD Interface & Springboard.
d42ns        - A Norstar D42-NS Interface & Springboard.
default      - An LSI/12x with a D12x Springboard.
        Board Type =
Default Board I/O address in hex = 344
Board I/O address in hex =
```

Note: Not all options listed in the above example may be available. Consult your sales representative for additional information.

Setting additional trunk features

The `syscfg` option allows you to set additional trunk features, including

- number of trunk groups supported by the DCM process
- size of the Dialogic transfer buffer
- whether or not busy and unbusy command replies are enabled
- default timeout value for replies
- ring detection reply selection
- wink bit mask

Trunk groups supported by the DCM process

By default, each Dialogic Channel Manager (DCM) process supports three trunk groups. However, in some instances, you may want to modify this. For example, when using the Text-to-Speech (TTS) option, you may want to manage all channels on the bus using the same DCM process. In this instance, you could use the `syscfg` option from the `/sci/setup` menu to set the number of trunk groups per DCM to six.

Setting the Dialogic transfer buffer size

The desired Dialogic transfer buffer size identifies the size of the buffer for transferring data between Dialogic voice board and the CPU's main memory. Choices include 0 = 16 Kbytes, 1 = 8 Kbytes, and 2 = 4 Kbytes (default). The buffer size is particularly crucial for BBN Hark automatic speech recognition. The larger the buffer size, the longer the time required between transfers. Consequently, for BBN Hark ASR, set the transfer buffer size to 2 (4 Kbytes) to increase the speed of speech recognition. Table 6-2 illustrates the differences in transfer speeds using the different parameter values and PCM verses ADPCM coding techniques.

Table 6-2: Transfer rate based on Dialogic buffer size

Dialogic buffer size (kbytes)	Transfer speed (sec) PCM	Transfer speed (sec) ADPCM
2	.25	.5
4	.5	1
16	2	4

Note: Transfer Speed (sec) assumes a sampling rate of 8000 Hz.

Enabling/disabling busy and unbusy command replies

The `syscfg` option prompts you to enable or disable busy/unbusy command replies. When enabled, this parameter allows certain command replies to be returned to AP software. For AP software 2.5 or greater, this parameter should be enabled.

Reply timeout

The default timeout value for replies sets the amount of time that the MRS software will wait for a reply from AP software before timing out.

Ring detection reply

The default ring detection response sets the response that MRS software returns to the AP software when detecting an incoming call. The response is based on the version of MRS software currently installed on the MRS and the associated detection features. AP software prior to release 4.0 utilizes the B0 response; whereas, AP software 4.0 supports the D0 reply.

The default setting is auto, which allows AP software to automatically determine which version of MRS software is installed and thereby automatically configure the appropriate reply (B0 or D0).

Wink bit mask

The default wink bit mask is 0x11. However, you can modify this when prompted by the `syscfg` option:

This example illustrates setting trunk features with the syscfg option.

```
/sci/setup>  syscfg
Enter the desired number of trunk groups per DCM
The recommended value is 3

Default Number of trunk groups per DCM = 3
        Number of trunk groups per DCM =

Enter the Dialogic xfer buffer size (0=16K ,1=8K, 2=4K)
The recommended value is 0
Default Xfer buffer size = 0
        Xfer buffer size =

Current Force busy and unbusy command replies = enabled
enabled    - Enable busy and unbusy replies
disabled   - Disable busy and unbusy replies
```

```
        Force busy and unbusy command replies =

Default Timeout value for replies = 120
        Timeout value for replies =

Enter the desired ring detect response (0-auto, 1-B0, 2-D0)
The recommended value is 0

Default Ring detect response = 0
        Ring detect response =

Default Wink Bit Mask = 0x11
        Wink Bit Mask =

Current UPS Option = disabled
enabled    - UPS support enabled
disabled   - UPS support disabled
        UPS Option =

Current Disk Mirroring Option = disabled
alert     - Disk Mirroring is enabled with alarm notification
enabled    - Disk Mirroring is enabled
disabled   - Disk Mirroring is disabled
        Disk Mirroring Option =

Current CCS Option = disabled
enabled    - CCS server is required
disabled   - CCS server is not required
        CCS Option =
```

Deleting trunks

To delete an activated trunk group, select the `trkbrd` option and specify `delete` when prompted.

```
/sci/setup>  trkbrd
Please enter the trunk group number to edit =  1
Current Trunk Group Exists - Delete it? = cancel
delete     - Delete this entry.
cancel     - Do not delete this entry.
        Trunk Group Exists - Delete it? = delete
```

Modifying the fax setup

To add or remove a fax board, access the `/sci/setup/options` menu and select the menu option corresponding to your Fax option. The following example activates a Gammalink fax board.

```
/sci/setup/options>  gamma
Please Enter the fax board number to edit =  1
Current Fax Does Not Exist - Add it? = cancel
add        - Add a new entry.
cancel     - Do not add the new entry.
        Fax Does Not Exist - Add it? = add
Current Fax Board Type = cp-4/sc
cp-4/sc    - GAMMAFAX CP-4/SC
cp-6/sc    - GAMMAFAX CP-6/SC
cp-12/sc   - GAMMAFAX CP-12/SC
        Fax Board Type =
Current Type of data encoding to use? = mu-law
mu-law     - Default data encoding used in the US.
a-law      - Default data encoding used in Europe.
        Type of data encoding to use? =
Current I/O Switch (SW-3) Setting:  = 15
15         - @ 0x358 (physical channels 0-3)
14         - @ 0x158 (physical channels 4-7)
13         - @ 0x168 (physical channels 8-11)
12         - @ 0x140 (physical channels 12-15)
11         - @ 0x148 (physical channels 16-19)
10         - @ 0x2B0 (physical channels 20-23)
9          - @ 0x2B8 (physical channels 24-27)
8          - @ 0x2C0 (physical channels 28-31)
7          - @ 0x2C8 (physical channels 32-35)
6          - @ 0x2D0 (physical channels 36-39)
5          - @ 0x2D8 (physical channels 40-43)
4          - @ 0x390 (physical channels 44-47)
3          - @ 0x398 (physical channels 48-51)
2          - @ 0x380 (physical channels 52-55)
1          - @ 0x388 (physical channels 56-59)
0          - @ 0x268 (physical channels 60-63)
        I/O Switch (SW-3) Setting:  =
```

To delete an activated fax module, select the corresponding option from the `/sci/setup/options` menu and specify `delete` when prompted.

```
/sci/setup/options>  brooktrout
Please Enter the fax board number to edit = 1
Current Fax Exists Delete it? = cancel
delete  - Delete this entry.
cancel  - Do not delete this entry.
       Fax Exists - Delete it? = delete
```

Adding or deleting Text-to-Speech boards

You can add or delete TTS boards by accessing the /sci/setup/options menu and selecting the appropriate option. This example adds an Antares TTS board.

```
/sci/setup> options
antares   - Add or delete Antares generic DSP board based
TTS/ASR
gamma     - Add or delete gamma fax board
hark      - Add or delete HARK software option
hwsetup   - Display the current hardware setup.
done      - Return to the previous menu.
cancel    - Return to the previous menu without saving changes.
/sci/setup/options>  antares
B#   DSP#              Installed Package               # ports
==   ====
=============================================       =======
 1      1  L&H American English TTS                    6 ports
        2  L&H American English TTS                    6 ports
        3  L&H American English TTS                    6 ports
        4  L&H American English TTS                    6 ports
Please Enter the Antares board number to edit =  2
Current Antares Board Does Not Exist - Add it? = cancel
add         - Add a new entry.
cancel      - Do not add the new entry.
        Antares Board Does Not Exist - Add it? = add
Current Antares clock = 50
50          - 50MHz Antares board.
33          - 33MHz Antares board.
        Antares clock =
Default ANTARES board base I/O address in hex = 0x208
        ANTARES board base I/O address in hex =
Current Type of data encoding to use? = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Type of data encoding to use? =

DSPs
Package  Description                          # ports/   DSP
                                              DSP  required
 1       Centigram English TTS                  2        1
 2       L&H American English TTS               6        1
 3       L&H Dutch TTS                          6        1
99       Do not load this DSP

Enter Package Number for DSP #1 1
 1       Centigram English TTS                  2        1
99       Do not load this DSP
```

```
Enter Package Number for DSP #2 1
 1       Centigram English TTS                  2        1
99       Do not load this DSP

Enter Package Number for DSP #3 1
 1       Centigram English TTS                  2        1
99       Do not load this DSP

Enter Package Number for DSP #4 1
```

To delete an activated Text-to-Speech module, select the corresponding technology option and specify `delete` when prompted.

```
/sci/setup/options>  antares
Please Enter the tts board number to edit = 1
Current TTS Exists Delete it? = cancel
delete  - Delete this entry.
cancel  - Do not delete this entry.
          TTS Exists - Delete it? = delete
```

Modifying the ASR setup

You can add or delete Automatic Speech Recognition (ASR) boards by accessing the `/sci/setup/options` menu and selecting the appropriate option. The following example adds a VR/160 voice recognizer board (VCS ASR) with one daughter module card.

```
/sci/setup/options>  vr/160
Please Enter the recognizer board number to edit =  1
Current Recognizer Does Not Exist - Add it? = cancel
add         - Add a new entry.
cancel      - Do not add the new entry.
        Recognizer Does Not Exist - Add it? = add
Current VCS Board Type = vr160-1
vr160-1     - VCS VR/160 + 1 VRM
vr160-2     - VCS VR/160 + 2 VRMs
vr160-3     - VCS VR/160 + 3 VRMs
vr160-4     - VCS VR/160 + 4 VRMs
        VCS Board Type =
Please, enter VCS recognition type for Module # 1
Current VCS recognition type = 1
1           - VCS VR/160 with discrete VRM
2           - VCS VR/160 with continuous VRM
        VCS recognition type =
   Enter the vocabulary name without the extension (dot) part.
Default naengstd:
Default PEB Number = 0
```

```
        PEB Number =
Current Data encoding = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Data encoding =
Current Number of timeslots on PEB bus = 24
24          - 24 timeslots on PEB bus.
32          - 32 timeslots on PEB bus.
        Number of timeslots on PEB bus =
Default Recognizer I/O address in hex = 0x200
        Recognizer I/O address in hex =
Default Recognizer RAM address in hex = 0xD8000
        Recognizer RAM address in hex =
```

To delete an activated voice recognizer module, select the appropriate option and specify `delete` when prompted.

```
/sci/setup/options>  vr/160
Please Enter the recognizer board number to edit = 1
Current Recognizer Exists Delete it? = cancel
delete  - Delete this entry.
cancel  - Do not delete this entry.
          Recognizer Exists - Delete it? = delete
```

Adding or deleting a dial pulse detection board

If you need to add or remove a dial pulse detection module, select the `ptcbrd` option from the `/sci/setup/options` menu.

Dial pulse detection is a method for detecting the audible clicks generated by a rotary phone as dial pulses. These dial pulses are filtered by the public switch telephone network (PSTN) and can be detected only if the switching equipment allows them to pass through the switch.

> ***Note:*** In some cases, the switching equipment detects the clicks and interprets them as a distant end disconnect. A disconnect signal is sent to the terminating equipment, defeating the use of the click-detection equipment.

The dial pulse detection module distinguishes audible clicks from other audible information on the telephone line and allows rotary phone callers to communicate with your IVR and voice mail applications.

The following example adds a dial detection module to PEB 0:

```
/sci/setup/options>  ptcbrd
```

```
Please enter the PEB number of the PTC boards to edit [ 0 - 7 ]
=  0
Current PTC Configuration on this PEB = cancel
add        - Add/Edit an entry.
delete     - Delete an entry.
cancel     - Do not add or delete the entry.
        PTC Configuration on this PEB = add
Current number of PTC boards configured on this PEB = 0
Default number of PTC boards to add to this PEB = 1
        number of PTC boards to add to this PEB =
Current type of data encoding to use? = a-law
mu-law     - Default data encoding used in the US.
a-law      - Default data encoding used in Europe.
        type of data encoding to use? =
Base channel for this PEB is = 0
```

Saving your changes

Once you have completed your changes to the MRS setup, save them by selecting either the `restart` or the `done` options. The `restart` option saves your changes and then automatically reboots the system, activating your changes. The `done` option saves your changes and returns control to the previously displayed SCI menu. In this case, your changes will not be activated until you reboot the system with the `restart` option (see the `/sci/maint` menu).

Canceling your setup session

If you decide not to save your changes during the setup session, select the `cancel` option.

Chapter 7: Command reference

Overview

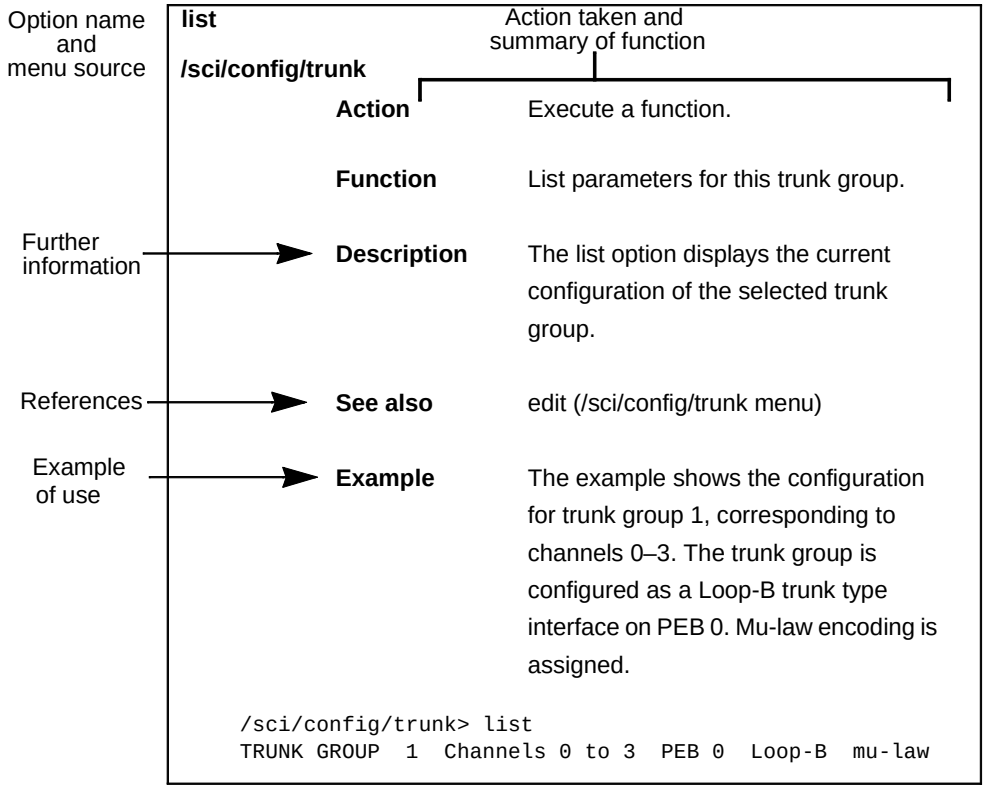
This chapter is organized by SCI menu environment for quick reference to SCI option descriptions. Refer to the appropriate menu section as follows:

- Main Menu (`/sci`)
- Configuration menu (`/sci/config`)
- Setup menu (`/sci/setup`)
- File Management menu (`/sci/files`)
- Status menu (`/sci/status`)
- Installation menu (`/sci/install`)
- Diagnostics menu (`/sci/diag`)
- Administration menu (`/sci/admin`)
- Maintenance menu (`/sci/maint`)

For each menu environment, a listing of the menu precedes a description of each of the menu options. Figure 7-1 illustrates the format of each option, clearly identifying the name of the option, the menu from which it can be selected, the action that is performed (such as access a submenu or execute a function), a brief description of its usage, and sources of additional information. An example is often included.

> ***Note:*** Access to menu items is based on the login access level. The `service` account has access to all of the menu selections, whereas `user` and `admin` have certain restrictions. For information on access to `sci` menu items, see “SCI-restricted access” on page 1-1.

Figure 7-1: The format of an option listing


Option name and menu source
list
/sci/config/trunk
Action taken and summary of function
Action
Execute a function.
Function
List parameters for this trunk group.
Further information
Description
The list option displays the current configuration of the selected trunk group.
References
See also
edit (/sci/config/trunk menu)
Example of use
Example
The example shows the configuration for trunk group 1, corresponding to channels 0–3. The trunk group is configured as a Loop-B trunk type interface on PEB 0. Mu-law encoding is assigned.
/sci/config/trunk> list
TRUNK GROUP 1 Channels 0 to 3 PEB 0 Loop-B mu-law

Note: The configurations appearing in the examples in this reference may not accurately represent your particular system setup.

To locate a specific SCI option, refer to either the menu listing or the table of contents of this reference manual.

Main Menu (/sci)

```
                        MRS/Tower Service Console
                          For MRS Revision 4.00
                              (c) Nortel 1998

sci      : Revision 4.00

config       - Display & modify system configuration parameters.
setup        - Display & modify the current hardware setup.
log          - Display the system event log.
files        - Perform file management functions.
status       - Perform system status functions.
reset        - Perform a full MRS reset.
install      - Perform software installation functions.
diag         - Perform system diagnostics functions.
admin        - Perform account administration functions.
maint        - Perform system maintenance functions.
quit         - Log out of the service console.
/sci>
```

When you log in to the SCI, the Main Menu is displayed. This is the `/sci` menu environment from which you access all of the SCI's features and functions. Each of the options listed on this menu is discussed in this section.

config

/sci

Action

Access submenu.

Function

Display and modify system configuration parameters.

Accessed By

Service, admin, user accounts.

Description

The `config` option displays a submenu of options that can be used for viewing and changing configuration parameters for the current MRS setup. The `done` option saves any changes you make while in the `/sci/config` menu environment and returns control to the `/sci` menu. The `cancel` option returns to the `/sci` menu without saving your changes. Saved changes to the configuration are not implemented until you reset or reboot the MRS.

> ***Note:*** If you need to install hardware options (for example, Fax, Text-to-Speech, Speech Recognition) in your MRS, you must contact your service representative to activate these options after the installation is complete. Once the option has been activated, you can view or modify the configuration parameters by using the options on the `/sci/config` menu.

Example

```
/sci>  config
list          - List the current configuration parameters.
sys           - Modify system parameters.
path          - Modify path parameters.
t1span        - Modify T-1 span parameters.
gcspan        - Modify Global Call span parameters.
trunk         - Modify trunk group parameters.
fax           - Modify fax port parameters.
snmp          - Perform SNMP management functions.
done          - Save changes and return to previous menu.
cancel        - Return to the previous menu without saving
                changes.
```

setup

/sci

Action

Access submenu.

Function

Display and modify the current hardware setup.

Accessed By

Service account.

Description

The `setup` option displays a menu from which you activate or deactivate all installed resources.

Example

```
/sci>  setup
hwsetup      - Display the current hardware setup.
options      - Add or delete system options.
switch       - Add or delete the switching matrix.
trkbrd       - Add or delete trunk groups.
syscfg       - Modify system configuration.
restart      - Save changes and restart the system.
done         - Save changes and return to the previous menu.
cancel       - Return to the previous menu without saving
               changes.
/sci>  setup
```

log

/sci

Action

Execute a function.

Function

Display the system event log.

Accessed By

Service, admin, user accounts.

Description

The `log` option displays the system event log, which is sorted by time starting with the oldest events. The event log is the repository of system event and status messages and contains the 300 most recent events. The contents of the log are displayed one screen at a time. All standard UNIX `pg` options are valid while viewing the event log. To clear the event log, type `log clear` and press <Enter>.

See also

`alarmlog` (`/sci/status` menu)

Example

The following lists the first screen of information previously captured in the event log:

```
/sci>  log
12/13 14:35 HWM:     ADVISORY 3101 Process Shutdown
12/13 14:35 DCM1:    ADVISORY 2301 Process Shutdown
12/13 14:35 DCM4:    ADVISORY 2301 Process Shutdown
12/13 14:35 DCM7:    ADVISORY 2301 Process Shutdown
12/13 14:35 DCM10:   ADVISORY 2301 Process Shutdown
12/13 14:35 BFC1:    ADVISORY 2801 Process Shutdown
12/13 14:35 BFC2:    ADVISORY 2801 Process Shutdown
12/13 14:35 BFC3:    ADVISORY 2801 Process Shutdown
12/13 14:35 BFC4:    ADVISORY 2801 Process Shutdown
12/13 14:35 COM:     ADVISORY 2201 Process Shutdown
12/13 14:35 CONV:    ADVISORY 3001 Process Shutdown
12/13 14:35 UVM:     ADVISORY 2401 Process Shutdown
12/13 14:35 BAS:     ADVISORY 2901 Process Shutdown
12/13 14:35 VCS1:    ADVISORY 3201 Process Shutdown
```

```
12/13 14:35 VCS2:    ADVISORY 3201 Process Shutdown
12/13 14:35 PSM:     ADVISORY 2101 Process Shutdown
12/13 14:35 SYS:     ADVISORY 9001 System Stopped
12/13 14:59 SYS:     ADVISORY 9000 System Started
12/13 15:00 HWM:     ADVISORY 3100 Process Startup
12/13 15:00 COM:     ADVISORY 2200 Process Startup
12/13 15:00 VCS1:    ADVISORY 3200 Process Startup
12/13 15:00 UVM:     ADVISORY 2400 Process Startup
12/13 15:00 BAS:     ADVISORY 2900 Process Startup
:
```

files

/sci

Action

Access submenu.

Function

Perform file management functions.

Accessed By

Service, admin, user accounts.

Description

The `files` option displays a submenu of options that can be used to manage VSN files and fax objects stored on the MRS. VSN files include prompts, voice messages, and fax documents. Fax objects are stored in fax sets (similar to file directories) and can be designated as special forms, logos, or signatures. Fax objects can also be assigned as defaults files. When an application initiates a `send fax` command, the intended ASCII text file is delivered to the MRS, where a fax defaults file identifies the fax objects to be merged with the file and controls how the file is converted to fax-ready format.

The `/sci/files` submenu includes options specific to VSN files and fax objects, as well as for enabling backup and restore procedures.

Example

```
/sci>  files
header       - Display or modify a VSN's header.
vsn          - Perform VSN management functions.
fax          - Perform fax conversion management functions.
vocab        - Perform vocabulary management functions.
hark         - Perform HARK management functions
tts          - Perform tts management functions.
bri          - Modify BRI parameter files
agent_id     - Modify ACD Agent Id File
restore      - Restore data files from a floppy.
prepare      - Prepare a floppy disk for data file Backup.
done         - Return to the previous menu.
/sci/files>
```

status

/sci

Action

Access submenu.

Function

Perform system status functions.

Accessed By

Service, admin, user accounts.

Description

The `status` option displays a submenu of options for retrieving system status information, ranging from a summary of the current system status to gathering system performance data.

Example

```
/sci>  status
system       - Display the system status.
proc         - Display the system process status.
map          - Display the current audio state of all trunks.
chan         - Display the system channel map.
audit        - Display the audit trail for a specified channel.
calls        - Display call completion statistics.
log          - Display the system event log.
alarmlog     - Display the alarm log.
perform      - Gather system performance data.
done         - Return to the previous menu.
```

reset

/sci

Action

Execute a function.

Function

Perform a full MRS reset.

Accessed By

Service, admin accounts.

Description

The `reset` option stops and restarts all MRS software resources running on your MRS. The reset procedure is required to implement changes to the system configuration or recover from a system failure. Selecting the *reset* option displays a message indicating that a reset procedure has been initiated, followed by the `/sci` system prompt. Meanwhile, the READY light on the MRS front panel begins to flash. The reset procedure is not complete until the READY light stops flashing and stays ON, and a new System Ready reply (`CCC0.....`) is written to the system event log. The entire reset procedure requires approximately 20 seconds to complete (the actual time will vary according to the number of options that are installed).

See also

`restart` (`/sci/maint menu`)

Example

```
/sci>  reset
Resetting the MRS Service...
MRS Reset Signal Sent.
/sci>
```

install

/sci

Action

Access submenu.

Function

Perform software installation functions.

Accessed By

Service, admin accounts.

Description

The `install` option displays a submenu of options that can be used to manage installation of software option packages.

CAUTION

Risk of service interruption

Executing this option stops all activity on the MRS. To prevent abrupt termination of calls in progress, stop applications running on the application server before executing the `install` option.

You may want to perform installation procedures during a time period when you know the incoming call traffic will be low. You may also want to redirect the phone lines temporarily to another system to handle incoming calls. Exiting the `/sci/install` menu automatically reboots the MRS.

When you select the `install` option, the SCI displays a warning indicating that proceeding further will stop all activity on the MRS. Typing **`yes`** and pressing <Enter> continues the procedure. The MRS software is stopped and the READY light on the MRS front panel starts flashing, indicating that the MRS is disabled. At this point, the SCI displays the `/sci/install` menu from which you can select options to perform various installation functions, such as checking revision numbers, installing a software option, or restoring data from a floppy.

To exit the `/sci/install` menu, you must select the `restart` option, which automatically reboots the MRS, activating any new software that has been installed.

> ***Note:*** When you select the `restart` option, the SCI automatically executes the check utility to verify cross-package requirements. If any discrepancies exist, the SCI prompts you about whether to restart or remain at the installation menu so that you can fix the discrepancies.

Example

```
/sci>  install
************************************************************
WARNING - Executing this option will cause the system to be
stopped.  Once the Install Menu is entered the only
 way to restart operations will be to reboot the MRS.
************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes   Continue with operation.
no-   Return to previous menu.
continue?  = yes
Stopping the System Now!
load          - Load a new license file from floppy.
rev          - Display the revision levels of all packages.
package      - Install an option package update from floppy.
link         - Link the UNIX kernel.
country      - Configure country specific parameters.
setup        - Display & modify the current hardware setup.
display      - Display all packages installed in the system
remove       - Remove an option package from the system
verify       - Verify all installed option packages.
check        - Check the integrity of an install package
               diskette.
restore      - Restore data files from a floppy.
lhttslang    - Install Lang. disks for L&H TTS.
extracttar   - Extract a tar archive from disk.
shell        - Create a new UNIX shell.
```

```
restart      - Restart the system.
```

diag

/sci

Action

Access submenu.

Function

Perform system diagnostics functions.

Accessed By

Service, admin, user accounts.

Description

The `diag` option accesses a submenu of options for running system diagnostics. Menu options allow you to test system components to verify functionality and locate any perceived faults.

> ***Note:*** You may want to examine the event log for possible error indications. (Refer to the `log` option on the `/sci` or the `/sci/status` menu.)

Five types of diagnostics tests can be performed: `chan`, `dual`, `calltest`, `ping`, and `t1diag`. Each of these options runs a specific test on an individual channel or a range of channels.

The `chan` option tests selected channels individually for accessibility and telephone network integrity. The `dual` option tests the ability of the trunk interface module to establish a path through the external telephone network and tests the path integrity, comparing the signal received to the signal transmitted. The `calltest` option tests functionality of a range of channels. The `ping` option verifies the link across a local area network. The `t1diag` option allows you to diagnose a T1 line.

When you start any of these tests, the selected channels is gracefully removed from the application running on the application server and then assigned to the selected diagnostics utility. When you stop the test, the channels are released and control is returned to the application server.

Whenever you select the `diag` option from the `/sci` menu, you start a diagnostics session, which is terminated when you exit the `/sci/diag` menu environment. You can review the results of any tests run during the current diagnostics session by selecting the `view` option. Select the `last` option to review results from the previous session.

Selecting the `done` option returns control to the `/sci` menu.

Example

```
/sci> diag
chan          - Single channel diagnostics test.
verbose       - Dynamically place processes in verbose mode.
dual          - Dual channel diagnostics test.
calltest      - Control the internal callin test.
ping          - Ethernet connection diagnostics test.
t1diag        - Perform T-1 diagnostic functions.
e1diag        - Perform E-1 diagnostic functions.
acd           - Control the ACD state of a channel.
view          - View results from current diagnostics tests.
last          - View results from last diagnostics tests.
done          - Return to the previous menu.
/sci/diag>
```

admin

/sci

Action

Access submenu.

Function

Perform account administration functions.

Accessed By

Service, admin, user accounts.

Description

The `admin` option displays a submenu of options that you can use to perform various system administration tasks, such as changing SCI account passwords, updating application server information, accessing a network, and displaying information about installed software. Selecting the `done` option returns you to the `/sci` menu.

Example

```
/sci>  admin
pass          - Change accounts password.
who           - List users logged into the system.
time          - Set the system date and time.
hosts         - Perform host management functions.
network       - Perform network configuration functions.
catalog       - Display option package information.
license       - License Menu.
done          - Return to the previous menu.
/sci/admin>
```

maint

/sci

Action

Access submenu.

Function

Perform system maintenance functions.

Accessed By

Service, admin accounts.

Description

The `maint` option displays a submenu of options that service personnel will need to perform periodic maintenance on the system. From this menu, you can initialize a channel, shut down or restart the system, and edit trunk type definitions.

Example

```
/sci>  maint
announce     - Enter Configured Auto Announcement Mode.
init         - Reinitialize an individual channel.
backup         - DAT tape backup/restore of file systems.
shell         - Create a UNIX shell.
download     - Download the system firmware and parameters.
shutdown     - Shutdown the system.
restart      - Restart the system.
params       - Display & modify trunk parameters.
done         - Return to the previous menu.
/sci/maint>
```

quit

/sci

Action

Execute a function.

Function

Log out of the service console.

Accessed By

Service, admin, user accounts.

Description

The `quit` option logs you out of the SCI and redisplays the UNIX login prompt. (If you had accessed the SCI over a local area network, selecting the `quit` option also terminates the remote connection.)

Example

This example logs out of the SCI.

```
/sci>  quit

cypher

Nortel Service Access Port                    Revision 4.00
Copyright 1991-1997, Nortel Inc. All Rights Reserved
login:
```

Configuration menu (/sci/config)

```
/sci>  config
list          - List the current configuration parameters.
sys           - Modify system parameters.
path          - Modify path parameters.
t1span        - Modify T-1 span parameters.
gcspan        - Modify Global Call span parameters.
e1span        - Modify E-1 span parameters.
trunk         - Modify trunk group parameters.
fax           - Modify fax port parameters.
snmp          - Perform SNMP management functions.
done          - Save changes and return to previous menu.
cancel        - Return to the previous menu without saving
                changes.
```

This menu of configuration options is displayed when you select the `config` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

list

/sci/config

Action

Execute a function.

Function

List the current configuration parameters.

Accessed By

Service, admin, user accounts.

Description

The `list` option displays the system configuration as it is currently defined in the `sysgen` file. When you modify the system configuration and save your changes using the `/sci/config` options, the `sysgen` file is updated to reflect the new changes. However, the new configuration is *not* implemented until the system is reset with the `reset` option (`/sci` menu) or rebooted using the `restart` option (`/sci/maint` menu).

> ***Note:*** If you modify the system configuration and save your changes, you should reset or reboot the system to ensure that the configuration displayed with the `list` option actually reflects the implemented configuration.

Example

```
/sci/config>  list
SYSTEM INFORMATION
    System Bus Type = SCBUS
    Sysgen File Version =  4.00
    Sample Rate = 32k
    Application Processor Link = auto
    A.P. Link Com Port Used = /dev/tty2a
    A.P. Link Failure Mode = none
    Current COM1 (/dev/tty1a) settings = 9600,7e1
    Current COM2 (/dev/tty2a) settings = 9600,7e1
    Duplicate Error Log Path = /dev/null
    SNMP Service Flag = off
    Default Tail Erase [msec] = 250
    Maximum Record Length [Minutes] = 15
    Minimum Valid Voice [msec] = 250
    Severity Level =
```

```
VOLUME INFORMATION
    VOLUME 1    Total Capacity = 14.0MB
    VOLUME 2    Not Formatted or Not Present
    VOLUME 3    Not Formatted or Not Present
    VOLUME 4    Not Formatted or Not Present

TRUNK INFORMATION
    TRUNK GROUP  1  Channels  0 to  3  SCBUS  Loop-B  a-law

RECOGNIZER INFORMATION
    ANTARES BOARD NUMBER = 1
    Clock speed = 50 MHz
    Base IO address  = 0x210
    Data encoding = A_Law
    Number of DSPs configured = 4
    Number of recognizers configured = 4
    DSP  1    PureSpeech English ASR                    1 ports
        VOCAB IDS: 0 99

    DSP  2    PureSpeech English ASR                    1 ports
        VOCAB IDS: 0 99

    DSP  3    PureSpeech English ASR                    1 ports
        VOCAB IDS: 0 99

    DSP  4    PureSpeech English ASR                    1 ports
        VOCAB IDS: 0 99
```

sys

/sci/config

Action

Execute a function.

Function

Modify system parameters.

Accessed By

Service, admin accounts.

Description

The `sys` option allows you to modify system-level parameters. The SCI displays each parameter one at a time. For each parameter, the SCI shows the current value, valid values, and the default value, and then prompts you to enter the new value. If you respond by simply pressing `<Enter>`, the SCI accepts the default value.

> ***Note:*** If you make changes to the system parameters and save your changes when exiting the `/sci/config` menu, you should immediately reset or reboot the system to ensure that the new configuration is implemented.

Each of the system parameters that you can modify is described below. Each includes valid values and the factory-shipped value.

Sample Rate

Valid values: 24 or 32 kbits/s
Factory-shipped: 32 kbits/s

Controls the sampling rate (in kilobits per second) of the digitized voice signal after compression. A rate of 32 kbits/s has superior quality but requires more storage space than 24 kbits/s. In some cases, such as when using older hardware designed to run in certain countries (for example, the older model four-port Dialogic card), only the 24 kbits/s option is supported. This parameter applies only to the sampling rate that will be used to record prompts; when the MRS plays recorded prompts, the sampling rate previously used for the recording will automatically be selected for each prompt.

Application Processor Communications Link

Valid values: comport, ethernet, autosense
Factory-shipped: autosense

Sets the link through which the MRS will accept commands from the application server (for example, Nortel's Symposium OPEN IVR software commands) to either RS-232-C communications or the Ethernet interface. This parameter must be set properly, otherwise the AP will not be able to control the system. If autosense is selected, the AP initiates the type of host communications link.

AP Link Failure Mode

Valid values: none, busyout, announce
Factory-shipped: none

Defines the system behavior in the case that communication with the application server is abruptly lost. This behavior does not take effect if the application server gracefully shuts down or was never connected in the first place. The following options are available:

none	Do nothing—ignore all new calls. Calls will get a ring-no-answer.
busyout	Busy out all trunks so that no new calls are received.
announce	Once IVR detects that communication is disrupted, it runs the embedded auto-announce application, which automatically answers all calls and informs the caller that the system is temporarily out of service.

COM Port settings (COM1 and COM2)

Baud rate

Valid values: 9600 or 2400 bps
Factory-shipped: 9600 bps

Data bits

Valid values: 7, 8
Factory-shipped: 7

Parity

Valid values: even, odd, no
Factory-shipped: even

Stop Bits

Valid values: 1, 2
Factory-shipped: 1

Each COM port is configurable. These parameters allow you to modify the current values for the available COM ports.

Default Tail-End Erase

Valid values: 10 to 10 000 milliseconds
Factory-shipped: 250 msec

Controls the tail-end erase value for newly recorded prompts or messages in the system. The tail-end erase value identifies the amount of voice data that is discarded from the end of a recorded message. The purpose is to eliminate the presence of a dial tone or a DTMF digit that might have been used to terminate the record process. This parameter is used only when Symposium OPEN IVR does not explicitly provide a tail-end erase value. If the recorded file is smaller than the specified tail-end erase duration, the tail-end erase function is not performed.

Maximum Recording Length

Valid values: 1 to 65 535 minutes
Factory-shipped: 15 minutes

Sets the maximum amount of time that any one continuous record or append operation may run. This parameter is a safety feature to prevent accidental unlimited growth of a file.

Minimum Valid Voice Duration

Valid values: 10 to 10,000 milliseconds
Factory-shipped: 250 msec

Sets the minimum duration of voice energy considered to be a valid utterance (that is, grunt) for voice confirmation on plays.

Fax SID

Valid values: up to 10 characters
Factory-shipped: 0123456789

This parameter is displayed only if the Fax option is installed. This sets the sender ID (SID) for use when sending faxes. The SID is a tag that identifies the party who sent a fax. This is useful when a bad transmission requires that a retry be attempted.

Severity Level

Valid values: advisory, minor, major, critical, fatal
Factory-shipped: minor

Displays the severity level threshold for the duplicate error log path. To modify the threshold, use the `severity` option on the `/sci/admin` menu.

See also

`list` (`/sci/config` menu), `severity` (`/sci/admin` menu)

Example

```
/sci/config>  sys
Current Sample Rate = 32k
24k             - 24 kb/s Sampling Rate
32k             - 32 kb/s Sampling Rate
default         - 32 kb/s Sampling Rate
        Sample Rate =
Current Application Processor Link = auto
auto          - Autosense link to use
comport       - Use the RS-232 link only
ethernet      - Use the ethernet link only
default       - Autosense link to use
        Application Processor Link =
Current A.P. Link Failure Mode = none
announce      - An announcement will be played upon A.P. failure.
busyout       - All trunks will be busied out upon A.P. failure.
none         - No action will be taken upon A.P. failure.
        A.P. Link Failure Mode =
Current COM1 (/dev/tty1a) settings: 9600,7e1
Do you wish to change COM1 settings
Current continue?  = no
yes          - Modify settings.
no           - Do not modify settings.
        continue?  = yes
Current Baud Rate  = 9600
2400         - 2400 Bit per second baud rate
```

```
9600         - 9600 Bit per second baud rate
default      - 9600 Bit per second baud rate
        Baud Rate  = 2400
Current Data Bits  = 7
7                - 7 Data Bits
8                - 8 Data Bits
default      - 7 Data Bits
        Data Bits  = 8
Current Parity  = e
e                - Even Parity
o                - Odd Parity
n                - No Parity
default      - Even Parity
        Parity  = n
Current Stop Bits  = 1
1                - 1 Stop Bits
2                - 2 Stop Bits
default      - 1 Stop Bits
        Stop Bits  = 1
Current COM2 (/dev/tty2a) settings: 9600,7e1
Do you wish to change COM2 settings
Current continue?  = no
yes             - Modify settings.
no              - Do not modify settings.
        continue?  = no
Default Default Tail Erase [msec] = 250
        Default Tail Erase [msec] =
Default Maximum Record Length [Minutes] = 15
     Maximum Record Length [Minutes] =
Default Minimum Valid Voice [msec] = 250
        Minimum Valid Voice [msec] =
```

path (PEB only)

/sci/config

Action

Execute a function.

Function

Modify path parameters.

Accessed By

Service, admin, user accounts.

Description

The `path` option allows you to modify the current switching mode for a PEB environment. This option is valid only when the Digital Matrix Switch (DMX) option is installed in the MRS. The switching mode controls how call-bridging and conferencing should be directed.

You can select either system-wide or PEB-based switching. (Refer to the *Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide* for further information on the full support of this feature.) System-wide switching mode allows any two channels in the system to be bridged. PEB-based switching is limited to bridging two channels on the same PCM Expansion Bus (PEB). The `switching` option is factory-shipped with PEB-based switching mode enabled.

> ***Note 1:*** PEB-based switching is supported with Symposium OPEN IVR versions prior to Release 4.0. System-wide switching is supported with Symposium OPEN IVR Release 4.0 or later.
>
> ***Note 2:*** This option is not valid for SCbus environments, since all resources are already (by definition) available to all channels on the SCbus no matter how many SCbus cables are installed.

Example

The following example changes the switching mode to system-wide access:

```
/sci/config> path
The switching option is not installed

Previous example:
```

```
Current Switching Mode = peb
system  System wide access.
peb     PEB based access.
default PEB based access.
Switching mode = system
/sci/config>
```

t1span

/sci/config

Action

Access submenu.

Function

Modify T1 span parameters.

Accessed By

Service, admin accounts.

Description

The `t1span` option displays a submenu of options for viewing and modifying configuration parameters associated with each installed T1 span. A T1 span corresponds to the T1 interface and voice-processing modules supporting 24 channels.

> ***Note:*** When editing a T1 span configuration, care must be taken in identifying the master/slave/resource (for example with T1 modules).
>
> In an SCbus environment, the network cards are configured as follows:
>
> - D/160SC-LS - first card master, remaining resource
> - D/41ESC - first card master, remaining resource
> - D/240SC-T1 - first card slave, remaining resource
>
> In a PEB environment, a network interface board on one PEB can be configured as the master and a board on another PEB can be configured as the slave.

T1 span parameters include:

Cable Length

Valid values: 133, 266, 399, 532, 665 feet
Factory-shipped: 133 feet

Specifies the length in feet of the T1 cable between the MRS and the Customer Service Unit (CSU). This information is required for proper pulse shaping during transmission.

Protocol Type

Valid values: ami, bit7, b8zs
Factory-shipped: bit7

Identifies the T1 protocol to be used. The MRS supports standard D3/D4 framing, Alternate Mark Inversion (AMI), AMI with bit7 stuffing, and B8ZS (Binary 8 Zero Suppression). This parameter should be set to match the protocol used by the characteristics of the T1 equipment to which the MRS is interfaced.

ami	This is standard AMI encoding.
bit7	This is AMI encoding with the seventh bit of each frame forced high to prevent continuous zero transmission, which can cause slips in synchronization.
b8zs	This protocol uses binary 8 zero suppression encoding to prevent continuous zero transmission, which can cause slips in synchronization.

Synchronization

Valid values: slave, master, resource
Factory-shipped: slave

Defines the source of the clock. Three synchronization modes are supported:

slave	This is the most common mode, where the T1 interface card extracts clock from the T1 network.
master	The clock is provided by the T1 interface module and is independent of the network. Typically used for testing.
resource	The clock source is determined by the resource module in the system that currently controls the transmit path. This may be required with certain MRS option packages (for example, the DMX option) to enable proper synchronization.

When you select the `t1span` option, the SCI prompts you to specify the T1 span identifier number (1–8). In a system with 48 T1 channels, the valid values are 1 or 2, where T1 span 1 corresponds to T1 channels 0–23. The SCI then displays the `/sci/config/t1span` menu options. The `list` option displays the current configuration. The `edit` option allows you to modify the current parameter values. Selecting the `done` option from this menu returns control to the `/sci/config` menu.

See also

`list` (`/sci/config/t1span` menu), `edit` (`/sci/config/t1span` menu), `trunk` (`/sci/config` menu)

Example

This example accesses the submenu of options to modify the configuration for T1 span 1.

```
/sci/config> t1span
Please Enter the T-1 span to edit =  1
edit   - Modify parameters for this T1 span.
list   - List parameters for this T1 span.
done   - Cancel this operation.
/sci/config/t1span>
```

edit

/sci/config/t1span

Action

Executes a function.

Function

Modify parameters for this T1 span.

Accessed By

Service, admin accounts.

Description

The `edit` option prompts you for a new value for each configuration parameter for the selected T1 span. The SCI displays the current value, a list of valid values, and the default value. Pressing <Enter> accepts the default value. For a definition of each parameter, refer to the `t1span` option (`/sci/config` menu).

> ***Note:*** If you make changes to T1 span parameters and save your changes when exiting the `/sci/config` menu, you should reset or reboot the system to ensure that the new configuration takes effect.

See also

`list` (/sci/config/t1span menu)

Example

The following example changes the T1 cable length to 266 feet and the protocol to AMI. The default synchronization value will be used. Keep in mind that these changes update the `sysgen` file but are not implemented until the system is reset or rebooted.

```
/sci/config/t1span> edit
Default Cable Length = 133
133             -   0í to 133í cable
266     - 133í to 266í cable
399     - 266í to 399í cable
533     - 399í to 533í cable
655     - 533í to 655í cable
default - 0í to 133í cable
       Cable Length =266
Current Protocol Type = bit7
```

```
bit7    - Use AMI with bit7 stuffing
ami     - Use transparent AMI
b8zs    - Use B8ZS code suppression
default - Use AMI with bit7 stuffing
       Protocol Type=ami
Current Synchronization = slave
slave   - Extract clock from T-1 linere
source  - Allow resource boards to control clocking
master  - Use the internal clock
default - Extract clock from the T-1 line
  Synchronization =
/sci/config>
```

list

/sci/config/t1span

Action

Executes a function.

Function

List parameters for this T1 span.

Accessed By

Service, admin accounts.

Description

The `list` option lists the current configuration of the selected T1 span.

Example

```
/sci/config/t1span> list
T-1 SPAN 1 SYNC slave  Protocol bit7 Cable Length 133
/sci/config/t1span>
```

gcspan

/sci/config

Action

Access submenu.

Function

Modify Primary Rate ISDN span parameters.

Accessed By

Service, admin accounts.

Description

The `gcspan` option displays a submenu of options for viewing and modifying configuration parameters associated with each installed GlobalCall ISDN PRI-based span.

Example

```
/sci/config> gcspan
Please Enter the PRI span to edit =  1
edit - Modify parameters for this PRI span.
list - List parameters for this PRI span.
done - Cancel this operation.
```

edit

/sci/config/gcspan

Action

Executes a function.

Function

Modify parameters for this GlobalCall span.

Accessed By

Service, admin accounts.

Description

The `edit` option prompts you for a new value for each configuration parameter for the selected GlobalCall span. The SCI displays the current value, a list of valid values, and the default value. Pressing <Enter> accepts the default value. The parameters and their associated defaults are listed below.

Switch Type

T1 valid values: 4ESS, 5ESS, DMS, NTT
Factory-shipped: 4ESS
Board: D/240SC-T1

Note: For testing purposes, there is also NT1.

E1 valid values: 1TR6, CTR4, DASS2, VN3, TPH
Factory-shipped: TPH
Board: D/300SC-E1

Sets the switch emulation.

Note: For testing purposes, there is also NE1 and VNNT.

Transfer Capability

Valid values: speech, udigital, rdigital, 3.1KHzAudio, 7KHzAudio, video
Factory-shipped: speech

Sets the type of data to be transferred. Speech and 3.1KHz Audio both describe a transfer capability using a single voice-grade channel. The reason for distinguishing between the two services is that it may be cost-effective for the network to use compression and encoding techniques that are appropriate only for human speech. Nonspeech application in the voiceband (for example, modem) may use the bandwidth in a more uniform and/or less predictable fashion than voice and might be rendered useless if the signal is altered using voice compression techniques.

- 7KHzAudio provides high-quality speech.
- Video service is for visual information transfer.
- Rdigital (restricted digital) is a 64-kbit/s bit stream where all-zero octets are not permitted.
- Udigital (unrestricted digital) is a 64-kbit/ss bit stream where all-zero octets are permitted.

Transfer Mode

Valid values: circuit, packet
Factory-shipped: circuit

Sets the mode for transferring data. Circuit mode is analogous to connection over the circuit switched network and provides a dedicated end-to-end connection for delay-sensitive applications, such as voice, audio, and video.

Packet mode is useful for applications not running in real time that send unrestricted or restricted digital data.

Transfer Rate

Valid values: 64 kbps
Factory-shipped: 64 kbps

Sets the transfer rate for B channels. The throughput is specified in bits per second for circuit-mode and packets per second for packet-mode service.

Destination Number Type

Valid values: national, international, local, overlap, en-bloc
Factory-shipped: national

Sets the destination number type. The number type identifies how the ISDN number is sent to the called ISDN device.

Using overlap, an ISDN terminal sends the called party's ISDN number in separate messages, one digit at a time.

En-bloc enables an ISDN terminal to send the called party's ISDN number in the single SETUP message.

Destination Number Plan

Valid values: telephony, isdn, private, unknown
Factory-shipped: telephony

Sets the destination numbering plan and specifies network addressing. A telephone number is nothing more than the address of a device attached to the telephone network.

Tracing

Valid values: on, off
Factory-shipped: off

Used for troubleshooting. Only for customer support personnel.

Modify Parameter File

Valid values: yes, no
Factory-shipped: no

Used to modify parameter 000A on E1 ISDN. By default, this parameter is set to 01. It must be reset to 00. Only for customer support personnel.

list

/sci/config/gcspan

Action

Executes a function.

Function

List parameters for this GlobalCall span.

Accessed By

Service, admin accounts.

Description

The `list` option lists the current configuration of the selected GlobalCall span. For a description of each of the configuration parameters and the associated default, refer to the `edit` option on the `/sci/config/gcspan` menu.

e1span

/sci/config

Action

Access submenu.

Function

Modify E1 span parameters.

Accessed By

Service, admin accounts.

Description

The `e1span` option displays a submenu of options for viewing configuration parameters associated with each installed E1 span.

> ***Note:*** The `e1span` option is used with older Dialogic modules. This option is not used with Aculab-based E1. Instead, the `country` option is used. See `/sci/maint/params` menu.

An E1 span corresponds to the E1 interface and voice-processing modules supporting 30 channels. When you select the `e1span` option, the SCI prompts you to specify the E1 span identifier number (1–8). In a system with 60 E1 channels, the valid values are 1 or 2, where E1 span 1 corresponds to E1 channels 0–29. The SCI then displays the `/sci/config/e1span` menu options. The `list` option displays the current configuration. Selecting the `done` option from this menu returns control to the `/sci/config` menu.

See also

`list` (`/sci/config/e1span` menu), `trunk` (`/sci/config` menu)

Example

This example accesses the submenu of options to modify the configuration for E1 span 1.

```
/sci/config> e1span
Please Enter the E-1 span to edit =  1
list   - List parameters for this E1 span.
done   - Cancel this operation.
/sci/config/e1span>
```

list

/sci/config/e1span

Action

Executes a function.

Function

List parameters for this E1 span.

Accessed By

Service, admin accounts.

Description

The `list` option lists the current configuration of the selected E1 span.

> ***Note:*** If you install an Aculab E1 module, you must reconfigure the country parameters (see `/sci/maint/params`).

See also

`e1span` (`/sci/config` menu), `country` (`/sci/maint/params`).

Example

This example lists the configuration for E1 span 1, channels 0 to 29.

```
/sci/config/e1span> list
ACL  E1  Span 1  Channels 0 to 29   PEB 0
```

trunk

/sci/config

Action

Access submenu.

Function

Modify trunk group parameters.

Accessed By

Service, admin accounts.

Description

The `trunk` option displays a submenu of options that you can use to view or modify the configuration of installed trunk interface modules. You can also enable or disable a trunk interface.

When you enter the `trunk` option, the SCI prompts you to identify the trunk group to be manipulated. Trunks are configured in groups of four. Table 7-1 lists the trunk groups for a 48-channel system. For example, group number 1 corresponds to trunks 0–3. A loopstart interface module supports 12 trunks. The SCI groups these trunks into three trunk groups. To identify the trunk groups associated with each installed interface, select the `list` option from the `/sci/config` menu, or refer to Table 7-1.

Table 7-1: Trunk Groups

Trunk number	Trunk group
00–03	1
04–07	2
08–11	3
12–15	4
16–19	5
20–23	6
24–27	7

Trunk number	Trunk group
28–31	8
32–35	9
36–39	10
40–43	11
44–47	12

Each trunk type is defined by a file containing a unique set of parameters that allows MRS hardware to connect to a particular type of telephone line. Your MRS already includes several trunk type definitions, which contain parameter values required to connect to some of the most commonly used trunk interfaces. If necessary, you can easily create additional trunk types.

Most trunk types support a particular hardware board or set of boards that connect to a particular type of telephone line with a specific set of options. When configuring a trunk group, the trunk type you select can be any trunk type that is applicable to the hardware on which the trunk group operates. Usually, there is only one trunk type that applies to the specific interface requirements of the device to which the telephone lines are being connected.

The MRS factory-shipped trunk types include those listed in Table 7-2.

Table 7-2: MRS trunk types

Trunk	Trunk Type/Protocol	Trunk File Name
Loopstart	Loopstart	loopst
	Loop-B	loopb
	LCO-Loopstart	intloopst
	ACD	m1-*X*acd
T1	T1-E&M	t1em
	T1-E&M-B	t1emb
	T1-W-ANI-E&M	t1wani
	T1-W-DNIS-E&M	t1wdnis
	T1-W-D-A-E&M	t1wda
	T1-W-E&M	t1wem
	Line side ACD (M1 only)	nt1-*X*acd
	Line Side T1 non ACD	nt-fxs-t1-ls
	AT&T	attg3fxsacd
	Rolm	rolmacdlog
	DMS 100	dms100
E1	Enhanced DPNSS	e1r216d
	Mexico, China, Malaysia,	e1r2

Note: Please note that the italicized uppercase *X* in the Trunk File Name denotes a variable.

You can easily create additional trunk types to support other interface modules and telephone network features. If you need help, contact Nortel customer service.

Selecting the `done` option from this menu returns control to the `/sci/config` menu.

See also

`params` (`/sci/maint` menu)

Example

The following example accesses a submenu of options for manipulating the configuration of trunk group 1.

```
/sci/config>  trunk
Please Enter the trunk group number to edit =  1
enable       - Enable this trunk group for use.
disable      - Disable this trunk group from use.
edit         - Modify parameters for this trunk group.
list         - List parameters for this trunk group.
done         - Return to the previous menu.
```

enable

/sci/config/trunk

Action

Executes a function.

Function

Enable this trunk group for use.

Accessed By

Service, admin accounts.

Description

The `enable` option designates that the selected disabled trunk group should be reenabled. This action does not take effect until the MRS is reset or rebooted.

Since all installed trunk interface modules that have been set up on a new system are initially enabled, this option is useful for reenabling a trunk group that has been previously disabled using the `disable` option on the `/sci/config/trunk` menu.

See also

`disable` (`/sci/config/trunk` menu)

disable

/sci/config/trunk

Action

Executes a function.

Function

Disable this trunk group from use.

Accessed By

Service, admin accounts.

Description

The `disable` option designates that the selected trunk group should be removed from use. This action does not take effect until the MRS is reset or rebooted. To reenable the trunk group, refer to the `enable` option.

See also

`enable` (`/sci/config/trunk` menu)

edit

/sci/config/trunk

Action

Executes a function.

Function

Modify parameters for this trunk group.

Accessed By

Service, admin accounts.

Description

The `edit` option allows you to change the trunk type of a selected trunk group. All trunk groups on the same physical trunk interface module must be assigned a similar trunk type: loopstart, DID, or T1. For example, trunk types DID and DID-Pulse can be assigned to a DID interface but not to a loopstart interface.

When you select the `edit` option, the SCI displays the current value, a list of valid values, and the default value. Pressing <Enter> accepts the default value. For a definition of the trunk type parameter, refer to the `trunk` option (`/sci/config` menu). To edit or add trunk types, refer to the `params` option (`/sci/maint` menu).

> ***Note:*** If you make changes to a trunk group and save your changes when exiting the `/sci/config` menu, you should immediately reset or reboot the system to ensure that the new configuration is implemented.

See also

`params` (`/sci/maint` menu), `list` (`/sci/config/trunk` menu)

Example

This example modifies the trunk type assigned to trunk group 1. As you can see, several pre-defined trunk types are available on the system. Trunk group 1 corresponds to the first four channels on a Loopstart trunk interface module. This example changes the trunk type from type 12, “loopstart,” to 11, “loop-B.” Because the physical interface is loopstart, only “loopstart-type” trunk types are valid. For an explanation of these trunk types, refer to the `trunk` option (`/sci/config` menu).

```
/sci/config>  trunk
Please Enter the trunk group number to edit =  1
enable       - Enable this trunk group for use.
disable      - Disable this trunk group from use.
edit         - Modify parameters for this trunk group.
list         - List parameters for this trunk group.
done         - Return to the previous menu.
/sci/config/trunk>  edit
Current Trunk Type = 12
0          - AdsiLoopB           1          - DID
2          - DID-Pulse           3          - DID-Pulse-Wink
4          - ExtLineIntfc        5          - FXS-T1-LoopStart
6          - FXS-T1B-LoopStart    7          - HK-LoopStart
8          - HK-LoopStart        9          - INV-T1-E&M
10         - LCO-LoopStart       11         - Loop-B
12         - LoopStart           13         - NS42
14         - T1-E&M              15         - T1-E&M-B
16         - T1-W-ANI-E&M        17         - T1-W-D-A-E&M
18         - T1-W-DNIS-E&M       19         - T1-W-E&M
        Trunk Type = 11
```

list

/sci/config/trunk

Action

Executes a function.

Function

List parameters for this trunk group.

Accessed By

Service, admin accounts.

Description

The `list` option displays the current configuration of the selected trunk group.

See also

`edit` (`/sci/config/trunk` menu)

Example

The example shows the configuration for trunk group 1, corresponding to channels 0–3. This trunk group is currently disabled. It is installed on the SCbus and is configured for mu-law encoding.

```
/sci/config/trunk> list
 TRUNK GROUP   1    Channels  0 to  3    SCBUS    disabled
mu-law
```

fax

/sci/config

Action

Access submenu.

Function

Modify fax port parameters.

Accessed By

Service, admin accounts.

Description

The `fax` option displays a submenu of options that you can use to manage the configuration of fax resources. This requires that the Fax option be installed in the MRS.

Using the options on this submenu, you can disable or enable a fax board, as well as list and edit board parameters. However, you must first select the board to be modified. To identify the fax boards installed in your MRS, select the `list` option from the `/sci/config` menu.

If your system includes the Fax option, you can specify parameter values for each of the available fax ports.

Port Status

Valid values: enabled, disabled
Factory-shipped: enabled

Enables or disables the corresponding port.

Receive Resolution

Valid values: dpi100, dpi200
Factory-shipped: dpi200

Defines the resolution (in dots per inch) at which received fax transmissions will be stored.

Receive Imagewidth

Valid values: a4width, a3width, b4width
Factory-shipped: a4width

Defines the image width to be applied to fax documents that are received.

a4width – A4 width format

a3width – A3 width format

b4width – B4 width format

Receive Imagelength

Valid values: a4length, b4length, unlimited
Factory-shipped: unlimited

Defines the image length to be applied to fax documents that are received.

a4length – A4 length format

b4length – B4 length format

unlimited – Unlimited length

Selecting the `done` option from this menu returns control to the `/sci/config` menu.

Example

This example accesses the submenu of options for modifying the current configuration of fax module 1.

```
/sci/config>  fax
Please Enter the fax board number to edit =  1
enable- Enable this fax board for use.
disable- Disable this fax board from use.
edit- Modify parameters for this fax board.
list- List parameters for this fax board.
done- Cancel this operation.
/sci/config/fax>
```

enable

/sci/config/fax

Action

Executes a function.

Function

Enable this fax board for use.

Accessed By

Service, admin accounts.

Description

The `enable` option designates that the selected disabled fax module should be reenabled. This action does not take effect until the MRS is reset or rebooted. Since all installed fax modules are initially enabled, this option is useful for reenabling a board that has been previously disabled using the `disable` option on the `/sci/config/fax` menu.

See also

`disable` (`/sci/config/fax` menu)

disable

/sci/config/fax

Action

Executes a function.

Function

Disable this fax board from use.

Accessed By

Service, admin accounts.

Description

The `disable` option designates that the selected fax board should be removed from use. This action does not take effect until the MRS is reset or rebooted.

See also

`enable` (`/sci/config/fax` menu)

edit

/sci/config/fax

Action

Executes a function.

Function

Modify parameters for this fax board.

Accessed By

Service, admin accounts.

Description

The `edit` option modifies the current configuration of the selected fax board. When you select the `edit` option, the SCI displays the current value, a list of valid values, and the default value for each fax parameter, one fax port at a time. Pressing <Enter> accepts the default value. For a definition of each fax parameter, refer to the `fax` option (`/sci/config` menu).

> ***Note:*** If you make changes to a fax board and save your changes when exiting the `/sci/config` menu, you should reset or reboot the system to ensure that the new configuration takes effect.

See also

`list` (`/sci/config/fax` menu)

Example

This example modifies the configuration of fax board 1. Specifically, the receive resolution and imagewidth parameters for port 1 are changed. The other parameters remain the same.

```
/sci/config/fax>  edit
FAX PORT 1
Current Port Status = enabled
enabled- The unit will be used
disabled     - The unit will not be used
  Port Status =
Current Receive Resolution = dpi200
dpi100 - 100 dots per inch
dpi200 - 200 dots per inch
  Receive Resolution =
dpi100
```

```
Current Receive Imagewidth = a4width
a4width- A4 width format
a3width- A3 width format
b4width- B4 width format
  Receive Imagewidth =b4width
Current Receive Imagelength = unlimited
a4length     - A4 length format
b4length     - B4 length format
unlimited    - Unlimited length
  Receive Imagelength =FAX PORT 2
Current Port Status = enabled
enabled- The unit will be used
disabled     - The unit will not be used
  Port Status =
Current Receive Resolution = dpi200
dpi100 - 100 dots per inch
dpi200 - 200 dots per inch  Receive Resolution =
Current Receive Imagewidth = a4width
a4width- A4 width format
a3width- A3 width format
b4width- B4 width format
  Receive Imagewidth =
Current Receive Imagelength = unlimited
a4length     - A4 length format
b4length     - B4 length format
unlimited    - Unlimited length
  Receive Imagelength =
/sci/config>
```

list

/sci/config/fax

Action

Executes a function.

Function

List parameters for this fax board.

Accessed By

Service, admin accounts.

Description

The `list` option displays the current configuration for the selected fax board.

See also

`edit` (`/sci/config/fax` menu)

Example

This illustration shows the configuration for fax board 1. Both ports are set to the same parameter values.

```
/sci/config/fax>  list
    FAX BOARD NUMBER = 1
    Board Status = enabled
    PEB number = 0
   PORT 01    Image Width: a4width Length: unlimited Resolution:
dpi200
   PORT 02    Image Width: a4width Length: unlimited Resolution:
dpi200
/sci/config>
```

snmp

/sci/config

Action

Executes a function.

Function

Perform SNMP management functions.

Accessed By

Service, admin accounts.

Description

The `snmp` option enables or disables network management services when your MRS is installed on a network utilizing the SNMP protocol (Simple Network Management Protocol). Enabling SNMP service allows severity level errors to be trapped and forwarded to the management host. If you reenable SNMP service, you must reset the MRS software (use the `reset` option from the `/sci` menu) for this to take effect. Additional configuration parameters you can set are listed in Table 7-3.

> ***Note:*** The management host does not have to be the application server. However, an entry in the hosts file must be included for the SNMP management host.

Table 7-3: SNMP configuration parameters

Parameter	Value	Description
Service Flag	ON/OFF	Enables/disables communication with the SNMP management host.
Network Entity	IP address or name of the SNMP management host	Identifies the management host.
Community String	password	Allows access privileges to the management host.

Parameter	Value	Description
Retry Value	number	Specifies the number of times the MRS will attempt to send a message to the management host if a failure occurs.
Timeout Value	number	Specifies the allowable time (in seconds) between attempts to send a message to the management host.

Example

The first example turns on the SNMP flag and prompts you for various parameter information. The second example shows that the flag is already on and gives you the option of turning it off.

```
/sci/config>  snmp
Current SNMP Service Flag = off
on         - Enable SNMP Service
off        - Disable SNMP Service
        SNMP Service Flag = on
Default Destination hostname or IP address = localhost
        Destination hostname or IP address =
Default Community String = public
        Community String =
Default Retry Value = 2
        Retry Value =
Default Timeout Value = 10
        Timeout Value =

/sci/config>  snmp
Current SNMP Service Flag = on
on         - Enable SNMP Service
off        - Disable SNMP Service
        SNMP Service Flag = off
/sci/config>
```

Setup menu (/sci/setup)

```
/sci>  setup
hwsetup      - Display the current hardware setup.
options      - Add or delete system options.
switch       - Add or delete the switching matrix.
trkbrd       - Add or delete trunk groups.
syscfg       - Modify system configuration.
restart      - Save changes and restart the system.
done         - Save changes and return to the previous menu.
cancel       - Return to the previous menu without saving
               changes.
/sci>  setup
```

When you log in to the SCI using the service account, the Main Menu includes the `setup` option. This option displays a menu from which you activate or deactivate all installed resources. Each of the options listed on this menu is discussed in this section.

hwsetup

/sci/setup

Action

Executes a function.

Function

Display the current hardware setup.

Accessed By

Service account.

Description

The `hwsetup` option displays the hardware resources that are currently installed and activated in your MRS.

Example

```
/sci/setup>  hwsetup

    UPS Option = disabled
    Disk Mirroring Option = disabled
    CCS Option = disabled
    Number of Trunks per DCM = 3
    Dialogic xfer buffer size = 16K buffers
    Busyout Replies = enabled
    Ring Detection Reply = Auto Detection
    Wink Bit Mask = 0x11

 TRUNK GROUPS INSTALLED

    trunk group  1 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  2 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  3 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  4 at I/O 000 RAM D0000 type d160sc-ls on SCBUS

 TTS BOARDS/DSPs INSTALLED

    ANTARES  1 DSP 1 Centigram English TTS               2 ports
    ANTARES  1 DSP 2 Centigram English TTS               2 ports
    ANTARES  1 DSP 3 Centigram English TTS               2 ports
    ANTARES  1 DSP 4 Centigram English TTS               2 ports
```

options

/sci/setup

Action

Accesses a submenu.

Function

Add or delete system options.

Accessed By

Service account.

Description

The `options` option accesses a submenu for adding or removing MRS options to your MRS. For example, you can add or remove Antares boards for automatic speech recognition or Text-to-Speech.

Example

```
/sci/setup>  options
antares      - Add or delete Antares generic DSP board based
TTS/ASR
vr/160       - Add or delete VCS board
gamma   - Add or delete gammalink fax board
brooktrout   - Add or delete brooktrout fax board
ptcboard     - add or delete PTC board
hwsetup      - Display the current hardware setup.
done         - Return to the previous menu.
cancel       - Return to the previous menu without saving
changes.
```

antares

/sci/setup/options

Action

Executes a function.

Function

Add or delete Antares TTS/ASR board.

Accessed By

Service account.

Description

The `antares` option adds or removes an Antares module used for either Text-to-Speech (TTS) or Automatic Speech Recognition (ASR) technologies. When you select a language for the first DSP, only languages associated with that technology can be selected for the remaining DSP assignments. For example, if you assign an L&H TTS language to DSP 1, only L&H languages can be selected. The alternative is 99, which assigns no language to the DSP.

> ***Note:*** Currently, Centigram supports only one language. L&H supports two languages for each module. PureSpeech ASR supports two languages, but only one for each module.

Example

This example shows that one Antares module is already installed in the system, and then adds another.

```
/sci/setup/options>  antares
B#   DSP#         Installed Package                      # ports
==   ====  ====================================       =======
 1      1  L&H American English TTS                     6 ports
        2  L&H American English TTS                     6 ports
        3  L&H American English TTS                     6 ports
        4  L&H American English TTS                     6 ports
Please Enter the Antares board number to edit =  2
Current Antares Board Does Not Exist - Add it? = cancel
add          - Add a new entry.
cancel       - Do not add the new entry.
         Antares Board Does Not Exist - Add it? = add
Current Antares clock = 50
```

```
50          - 50MHz Antares board.
33          - 33MHz Antares board.
        Antares clock =
Default ANTARES board base I/O address in hex = 0x208
        ANTARES board base I/O address in hex =
Current Type of data encoding to use? = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Type of data encoding to use? =
                                                    #ports/   DSPs
Package  Description                                    DSP
required
 1       Centigram English TTS                       2        1
 2       L&H American English TTS                     6        1
 3       L&H Dutch TTS                                6        1
99       Do not load this DSP


Enter Package Number for DSP #1 1
 1       Centigram English TTS                       2        1
99       Do not load this DSP

Enter Package Number for DSP #2 1
 1       Centigram English TTS                       2        1
99       Do not load this DSP

Enter Package Number for DSP #3 1
 1       Centigram English TTS                       2        1
99       Do not load this DSP

Enter Package Number for DSP #4 1
```

vr/160

/sci/setup/options

Action

Executes a function.

Function

Add or delete VCS board.

Accessed By

Service account.

Description

The `vr/160` option adds or removes a Dialogic VCS module.

Example

The example adds a vr160-1 module.

```
/sci/setup/options>  vr/160
Please Enter the recognizer board number to edit =  1
Current Recognizer Does Not Exist - Add it? = cancel
add         - Add a new entry.
cancel      - Do not add the new entry.
        Recognizer Does Not Exist - Add it? = add
Current VCS Board Type = vr160-1
vr160-1     - VCS VR/160 + 1 VRM
vr160-2     - VCS VR/160 + 2 VRMs
vr160-3     - VCS VR/160 + 3 VRMs
vr160-4     - VCS VR/160 + 4 VRMs
        VCS Board Type =
Please, enter VCS recognition type for Module # 1
Current VCS recognition type = 1
1           - VCS VR/160 with discrete VRM
2           - VCS VR/160 with continuous VRM
     VCS recognition type =
     Enter the vocabulary name without the extension (dot) part.
Default naengstd:
Default PEB Number = 0
        PEB Number =
Current Data encoding = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Data encoding =
Current Number of timeslots on PEB bus = 24
```

```
24          - 24 timeslots on PEB bus.
32          - 32 timeslots on PEB bus.
        Number of timeslots on PEB bus =
Default Recognizer I/O address in hex = 0x200
        Recognizer I/O address in hex =
Default Recognizer RAM address in hex = 0xD8000
        Recognizer RAM address in hex =
```

gamma

/sci/setup/options

Action

Executes a function.

Function

Adds or removes a brooktrout fax module.

Accessed By

Service account.

Description

The gamma option adds or removes a gammalink fax module.

Example

```
/sci/setup/options>  gamma
Please Enter the fax board number to edit =  1
Current Fax Does Not Exist - Add it? = cancel
add        - Add a new entry.
cancel     - Do not add the new entry.
        Fax Does Not Exist - Add it? = add
Current Fax Board Type = cp-4/sc
cp-4/sc    - GAMMAFAX CP-4/SC
cp-6/sc    - GAMMAFAX CP-6/SC
cp-12/sc   - GAMMAFAX CP-12/SC
        Fax Board Type =
Current Type of data encoding to use? = mu-law
mu-law     - Default data encoding used in the US.
a-law      - Default data encoding used in Europe.
        Type of data encoding to use? =
Current I/O Switch (SW-3) Setting:  = 15
15         - @ 0x358 (physical channels 0-3)
14         - @ 0x158 (physical channels 4-7)
13         - @ 0x168 (physical channels 8-11)
12         - @ 0x140 (physical channels 12-15)
11         - @ 0x148 (physical channels 16-19)
10         - @ 0x2B0 (physical channels 20-23)
9          - @ 0x2B8 (physical channels 24-27)
8          - @ 0x2C0 (physical channels 28-31)
7          - @ 0x2C8 (physical channels 32-35)
6          - @ 0x2D0 (physical channels 36-39)
5          - @ 0x2D8 (physical channels 40-43)
4          - @ 0x390 (physical channels 44-47)
```

```
3         - @ 0x398 (physical channels 48-51)
2         - @ 0x380 (physical channels 52-55)
1         - @ 0x388 (physical channels 56-59)
0         - @ 0x268 (physical channels 60-63)
        I/O Switch (SW-3) Setting:  =
```

brooktrout

/sci/setup/options

Action

Executes a function.

Function

Add or delete a Brooktrout fax board.

Accessed By

Service account.

Description

The `brooktrout` option adds or removes a Brooktrout fax module.

Example

```
/sci/setup/options>  brooktrout
Please Enter the fax board number to edit = 1
Current Fax Does Not Exist - Add it? = cancel
add - Add a new entry
cancel- Do not add the new entry
Fax Does Not Exist - Add it? = add
Default PEB Number = 0
PEB Number =
Current Type of data encoding to use? = 0
mu-law- Default data encoding used in the US
a-law- Default data encoding used in Europe
Type of data encoding to use? =
Current Number of timeslots on PEB bus =
24  - 24 timeslots on PEB bus
32  - 32 timeslots on PEB bus
Number of timeslots on PEB bus = 24
```

Note: (24 timeslots for T1 or loopstart, or 32 timeslots for E1)

```
Default Number of FAX Ports Per Board =
Number of FAX Ports Per Board =2
/sci/setup/options> done
```

ptcbrd

/sci/setup/options

Action

Execute a function.

Function

Add or delete PTC boards.

Accessed By

Service, admin, user accounts.

Description

The `ptcbrd` option adds or removes a dial pulse detection module.

Dial pulse detection is a method of detecting the audible clicks generated by a rotary phone as dial pulses. If the PSTN filters these dial pulses, the MRS with this module will not be able to detect the pulses.

> ***Note:*** In some cases, the switching equipment detects the clicks and interprets them as a distant end disconnect. A disconnect signal is sent to the terminating equipment, defeating the use of the click-detection equipment.

The dial detection module (Aerotel-based) distinguishes audible clicks from other audible information on the telephone line and allows rotary phone callers to communicate with your IVR and voice mail applications.

Example

This example adds a PTC board to PEB 0.

```
/sci/setup/options>  ptcbrd
Please enter the PEB number of the PTC boards to edit [ 0 - 7 ]
=  0
Current PTC Configuration on this PEB = cancel
add        - Add/Edit an entry.
delete     - Delete an entry.
cancel     - Do not add or delete the entry.
        PTC Configuration on this PEB = add
Current number of PTC boards configured on this PEB = 0
Default number of PTC boards to add to this PEB = 1
        number of PTC boards to add to this PEB =
Current type of data encoding to use? = mu-law
```

```
mu-law     - Default data encoding used in the US.
a-law      - Default data encoding used in Europe.
        type of data encoding to use? =
Base channel for this PEB is = 0
```

hwsetup

/sci/setup/options

Action

Executes a function.

Function

Display the current hardware setup.

Description

The `hwsetup` option displays the hardware resources that are currently installed and activated in your MRS.

Example:

```
/sci/setup/options>  hwsetup

    UPS Option = disabled
    Disk Mirroring Option = disabled
    CCS Option = disabled
    Number of Trunks per DCM = 3
    Dialogic xfer buffer size = 16K buffers
    Busyout Replies = enabled
    Ring Detection Reply = Auto Detection
    Wink Bit Mask = 0x11

 TRUNK GROUPS INSTALLED

    trunk group  1 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  2 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  3 at I/O 000 RAM D0000 type d160sc-ls on SCBUS
    trunk group  4 at I/O 000 RAM D0000 type d160sc-ls on SCBUS

 TTS BOARDS/DSPs INSTALLED

   ANTARES  1 DSP 1 Centigram English TTS               2 ports
   ANTARES  1 DSP 2 Centigram English TTS               2 ports
   ANTARES  1 DSP 3 Centigram English TTS               2 ports
   ANTARES  1 DSP 4 Centigram English TTS               2 ports
```

switch

/sci/setup

Action

Executes a function.

Function

Add or delete the switching matrix.

Accessed By

Service account.

Description

The `switch` option adds or removes the switching matrix module to a PEB environment.

> ***Note:*** Symposium OPEN IVR Release 4.0 requires system-wide switching. Earlier releases required PEB-based switching.

Example

```
/sci/setup>  switch
Current Switching Option Does Not Exist - Add it? = cancel
add          - Add a new entry.
cancel       - Do not add the new entry.
Switching Option Does Not Exist - Add it? = add
```

trkbrd

/sci/setup

Action

Executes a function.

Function

Add or delete trunk groups.

Accessed By

Service account.

Description

The `trkbrd` option adds or deletes trunk groups from the available MRS resources. Each group of trunks represents four channels on the MRS. Use this option when you install or remove network interface modules and associated voice/call processing modules.

> ***Note:*** When adding network interface boards to your system, care must be taken in identifying the master/slave/resource (for example, with T1 modules).
>
> In an SCbus environment, the network cards are configured as follows:
>
> - D/160SC-LS - first card master, remaining resource
> - D/41ESC - first card master, remaining resource
> - D/240SC-T1 - first card slave, remaining resource
>
> In a PEB environment, a network interface board on one PEB can be configured as the master and a board on another PEB can be configured as the slave.

Example

The following example adds a T1 module:

```
/sci/setup>  trkbrd
Please enter the trunk group number to edit =  1
Current Trunk Group Does Not Exist - Add it? = cancel
add         - Add a new entry.
cancel      - Do not add the new entry.
        Trunk Group Does Not Exist - Add it? = add
```

```
Current Board Type = d160sc-ls
acl30       - Aculab 30 port E1/ISDN Network Card.
acl60       - Aculab 60 port E1/ISDN Network Card.
d160sc-ls   - A D/160SC-LS 16 channel Loopstart Card.
d240sc-t1   - A D/240SC-T1 high density T1 Span Card.
d240sc-t1gc - 23 port PRI ISDN with D/240SC-T1 Span Card
d300sc-e1gc - 30 port PRI ISDN with D/300SC-E1 Span Card
dti301sc-e1g- 30 port CAS with DTI/301SC and D/320SC Span Cards
d4xe        - A D4xE Interface & Springboard.
default     - A D/160SC-LS 16 channel Loopstart Card.
        Board Type = d240sc-t1
Default Board Base RAM Address in hex = 0xD0000
        Board Base RAM Address in hex =
Current Type of clocking to use? = master
slave       - Extract clock from the T-1 line
resource    - Allow resource boards to control clocking
master      - Use the internal clock
default     - Extract clock from the T-1 line
        Type of clocking to use? =
Default Board Locator address in hex = 0x0
        Board Locator address in hex =
Current Type of data encoding to use? = mu-law
mu-law      - Default data encoding used in the US.
a-law       - Default data encoding used in Europe.
        Type of data encoding to use? =
```

The following example adds a D/160SC-LS module:

```
/sci/setup>  trk 1-4 add
Current Board Type = d160sc-ls
acl30      - Aculab 30 port E1/ISDN Network Card.
acl60      - Aculab 60 port E1/ISDN Network Card.
d160sc-ls   - A D/160SC-LS 16 channel Loopstart Card.
d240sc-t1   - A D/240SC-T1 high density T1 Span Card.
d240sc-t1gc - 23 port PRI ISDN with D/240SC-T1 Span Card
d300sc-e1gc - 30 port PRI ISDN with D/300SC-E1 Span Card
dti301sc-e1g- 30 port CAS with DTI/301SC and D/320SC Span Cards
d4xe       - A D4xE Interface & Springboard.
default    - A D/160SC-LS 16 channel Loopstart Card.
        Board Type =
Default Board Base RAM Address in hex = 0xD0000
        Board Base RAM Address in hex =
Default Board Locator address in hex = 0x0
        Board Locator address in hex =
Current Type of data encoding to use? = mu-law
mu-law     - Default data encoding used in the US.
a-law      - Default data encoding used in Europe.
        Type of data encoding to use? =
Current Type of clocking to use? = master
```

```
slave      - Extract clock from the line
resource   - Allow resource boards to control clocking
master     - Use the internal clock
default    - Extract clock from the line
        Type of clocking to use? = master
Current Global Dial Pulse Detection = disabled
enabled    - GDPD is enabled
disabled   - GDPD is disabled
        Global Dial Pulse Detection =
Parameter File selection menu
1  -  Select from installed
2  -  Select custom
3  -  Do not use any parameter file(s)
Enter your choice [3] :  1
Current Parameter File = 0
0   - GEN_160.prm  D/160-SC LS Generic Parameter file
1   - JP_160.prm   D/160-SC LS Parameter file for Japan
2   - US_160.prm   D/160-SC LS Parameter file for U.S
3    - us_160.prm
        Parameter File =
```

The following example deletes a board:

```
/sci/setup>  trkbrd
Please enter the trunk group number to edit =  1
Current Trunk Group Exists - Delete it? = cancel
delete     - Delete this entry.
cancel     - Do not delete this entry.
        Trunk Group Exists - Delete it? = delete
```

syscfg

/sci/setup

Action

Executes a function.

Function

Modify process configuration.

Accessed By

Service account.

Description

The `syscfg` option sets the number of trunk groups per Dialogic Channel Manager (DCM) process, specifies the Dialogic transfer buffer size, enables/disables busy and unbusy command replies, sets the default timeout value for replies, specifies the default ring detection response, and sets the wink bit mask.

This option also allows you to enable or disable additional system options such as uninterruptible power supply (UPS) and disk mirroring.

By default, each DCM process supports three trunk groups. However, in some instances, you may want to modify this.

The desired Dialogic transfer buffer size identifies the size of the buffer for transferring data between Dialogic voice board and the CPU's main memory. Choices include the 0 = 16 Kbytes, 1 = 8 Kbytes, and 2 = 4 Kbytes (default). The larger the buffer size, the longer time required between transfers. Table 7-4 illustrates the differences in transfer speeds using the different parameter values and PCM versus ADPCM coding techniques.

Table 7-4: Transfer rate based on Dialogic buffer sizes

Dialogic Buffer Size (Kbytes)	Transfer Speed (sec.) PCM[a]	Transfer Speed (sec.) ADPCM
2	.25	.5
4	.5	1
16	2	4

a. Assumes sampling rate of 8000 Hz

Enabling the “busy and unbusy command replies” parameter allows certain command replies to be returned to Symposium OPEN IVR. For Symposium OPEN IVR 4.0 this parameter should be enabled.

The default timeout value for replies sets the amount of time that the MRS software will wait for a reply from the OPEN IVR AP software before timing out.

The default ring detection response sets the response that MRS software returns to the AP software when detecting an incoming call. The response is based on the version of MRS software currently installed on the MRS and the associated detection features. OPEN IVR software prior to version release 2.5 utilizes the B0 response; whereas, OPEN IVR 2.5 supports the D0 reply.

The B0 reply returns information about the incoming call, such as ANI and DNIS digits. However, each field in the reply is limited to 15 digits. The D0 reply provides more information about the call:

- up to 31 ANI digits
- up to 31 DNIS digits
- additional information for the developer (for example, diversion, calling line category, number diverted from)

The default setting is `auto`, which allows the OPEN IVR AP software to automatically determine which version of MRS software is installed and thereby automatically configure the appropriate reply (B0 or D0). Setting this parameter to B0 or D0 explicitly returns the corresponding result without consideration of the software version currently in use.

The wink mask must be set to 0x11 for normal operation. To support NFA trunks in voice dialing applications, this parameter should be set to 0x1.

Example

This example sets the default Dialogic transfer buffer size to 0 (16 Kbytes) and the default ring detection to B0.

```
/sci/setup>  syscfg

Enter the desired number of trunk groups per DCM

The recommended value is 3

Default Number of trunk groups per DCM = 3

        Number of trunk groups per DCM =

Enter the Dialogic xfer buffer size (0=16K ,1=8K, 2=4K)

The recommended value is 0

Default Xfer buffer size = 0

        Xfer buffer size =

Current Force busy and unbusy command replies = enabled

enabled    - Enable busy and unbusy replies

disabled   - Disable busy and unbusy replies

        Force busy and unbusy command replies =

Default Timeout value for replies = 120

        Timeout value for replies =

Enter the desired ring detect response (0-auto, 1-B0, 2-D0)

The recommended value is 0

Default Ring detect response = 0

        Ring detect response =

Default Wink Bit Mask = 0x11

        Wink Bit Mask =
```

```
Current UPS Option = disabled

enabled    - UPS support enabled

disabled   - UPS support disabled

        UPS Option =

Current Disk Mirroring Option = disabled

star       - Disk Mirroring using STAR is enabled

vdm     - Disk Mirroring using VDM is enabled

disabled   - Disk Mirroring is disabled

        Disk Mirroring Option =

Current CCS Option = disabled

enabled    - CCS server is required

disabled   - CCS server is not required

        CCS Option =
```

restart

/sci/setup

Action

Executes a function.

Function

Save changes and restart the system.

Accessed By

Service account.

Description

The `restart` option saves any changes you have made during your `/sci/setup` menu session and automatically reboots the system so that your changes will go into effect. The `done` option saves your changes but returns control only to the `/sci` menu.

File management menu (/sci/files)

```
/sci>  files
header        - Display or modify a VSN's header.
vsn           - Perform VSN management functions.
fax           - Perform fax conversion management functions.
vocab         - Perform vocabulary management functions.
tts           - Perform tts management functions.
agent_id      - Modify ACD Agent Id File
restore       - Restore data files from a floppy.
prepare       - Prepare a floppy disk for data file Backup.
done          - Return to the previous menu.
/sci/files>
```

This menu of file management options is displayed when you select the `files` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

header

/sci/files

Action

Access a submenu.

Function

Display or modify a VSN's header.

Accessed By

Service, admin accounts.

Description

The `header` option lists options that allow you to display or modify a VSN's header.

Example

```
/sci/files> header
query    - Display a VSN's header information.
add      - Add a header to a VSN.
delete   - Delete header from a VSN.
done     - Return to previous menu.
```

query

/sci/files/header

Action

Executes a function.

Function

Display a VSN's header information.

Accessed By

Service, admin accounts.

Description

The `query` option displays the contents of a VSN's header.

Example

The following example lists the header for VSN 0.

```
/sci/files/header>  query
Default VSN header to display = 0
        VSN header to display =
-------------------------------------------------------------
| VSN Type        : ADPCM Voice Data                        |
| Sample Rate     : 32K bits/second                         |
| Length          : 0.90 seconds (3603 bytes)               |
| Comment Text    : <NONE>                                  |
-------------------------------------------------------------
/sci/files/header>
```

add

/sci/files/header

Action

Executes a function.

Function

Add a header to a VSN.

Accessed By

Service, admin accounts.

Description

The `add` option adds a header to the specified VSN. You can identify the VSN type (default is ADPCM) and sample rate. You can also add a comment to the header (up to 160 characters).

> ***Note:*** VSN type "EPSON" corresponds to a text file with embedded Epson escape sequences. The BFT type identifies a binary file transfer for use with the Brooktrout fax option.

See also

`install` (`/sci/files/vsn/install`)

Example

VSN 601 has no header. It contains a raw voice data file that was recorded using µ-Law compression. This example adds a µ-Law–type header to VSN 601 and then displays the new header using the `query` option.

```
/sci/files/header>  add
Default VSN to add header to = 0
        VSN to add header to =

 Header already exists for VSN0000.

Would you like to modify the header? [y/n]
  y

What is the type of the VSN to add the header to?

Current Choose the VSN type:  = 1
1          - ADPCM (Voice file)
```

```
2          - FAX
3          - ASCII (text file)
4          - A-law (European PCM file)
5          - Mu-law (American PCM file)
6          - ADSI
7          - EPSON
8          - BFT
9          - EMAIL
default     - ADPCM
        Choose the VSN type:  = 5

Type in a comment string up to 160 characters:
 Welcome to the International Computer Expo
/sci/files/header>  query
Default VSN header to display = 0
        VSN header to display =  601
-----------------------------------------------------------------
| VSN Type        : Mu-law
Data                                                    |
| Length          : 12882
Bytes                                                    |
| Comment Text    : Welcome to the International Computer
Show                |
-----------------------------------------------------------------
---------------
/sci/files/header>
```

delete

/sci/files/header

Action

Executes a function.

Function

Delete a header from a VSN.

Accessed By

Service, admin accounts.

Description

The `delete` option removes the header from the specified VSN.

Example

This example removes the header from VSN 10.

```
/sci/files/header> delete
Default VSN header to delete = 0
VSN header to delete = 10
/sci/files/header>
```

vsn

/sci/files

Action

Access submenu.

Function

Perform VSN management functions.

Accessed By

Service, admin, user accounts.

Description

The `vsn` option accesses a submenu of options for managing VSN files. A VSN file can be a prompt, voice message, ASCII text, or fax document. VSNs are stored on a VSN volume, or virtual disk, which resides on one of the MRS's physical disks. Applications running on the AP can retrieve or store VSNs, which are identified by number. Each VSN has a header containing the type of file (for example, voice, fax, ASCII text) and such information as the sampling rate and compression technique used during initial recording.

You can use options on the submenu to copy or delete individual VSN files or clear a VSN volume of all stored VSNs. You can also view how VSNs are mapped on the available VSN volumes and the disk capacity used to store VSN files. Selecting the `done` option returns control to the `/sci/files` menu.

Example

```
/sci/files>  vsn
copy         - Copy VSN files.
install      - Install VSN files from floppy disk.
delete       - Delete VSN files.
clear        - Clear a VSN Volume of all VSNs.
usage        - Display the VSN volume utilization.
backup       - Backup VSNs to a floppy disk.
map          - Display the current VSN allocation map.
done         - Return to the previous menu.
/sci/files/vsn>
```

copy

/sci/files/vsn

Action

Executes a function.

Function

Copy VSN files.

Accessed By

Service, admin, user accounts.

Description

The `copy` option copies a VSN file. The SCI prompts you to identify the source VSN file and the destination VSN file. The SCI assumes that you are entering the VSN identifier in decimal notation unless you precede the VSN number by 0x. The SCI displays all VSN file identifiers in hexadecimal.

See also

`map` (`/sci/files/vsn` menu)

Example

This example copies VSNs 0x0096 to 0x2711.

```
/sci/files/vsn>  copy
Default Source VSN= 0
  Source VSN=  0x0096
Default Destination VSN = 0
  Destination VSN =  0x2711
Ready to Copy VSN 0x0096 to VSN 0x2711
Are you sure you wish to continue?
Current continue?  = yes
yes    - Continue with operation.
no     - Return to previous menu.
VSN 0x0096 to 0x2711 - Copied Successfully
/sci/files/vsn>
```

These requirements can be accomplished by using the `install` option on the `/sci/files/vsn` menu.

install

/sci/files/vsn

Action

Access a submenu.

Function

Install VSN files from floppy disk.

Accessed By

Service, admin accounts.

Description

The `install` option displays a submenu of options for loading files on the MRS as VSNs. Any file can be loaded into temporary storage from a UNIX tar or DOS formatted floppy disk by using the `load` or `dosload` option, respectively. Once the files are loaded, you can assign them to VSNs with the `assign` option. The header is automatically created based on the file type you specify. This option provides a simple method for creating VSNs in Binary File Transfer (BFT) format.

The `view` option allows you to see which loaded files remain unassigned to VSNs.

See also

`/sci/files/fax` submenu and `/sci/files/vsn/header` submenu.

Example

```
/sci/files/vsn>  install
load         - Load more VSN objects from a UNIX-TAR disk.
dosload      - Load more VSN objects from a DOS disk.
view         - List VSN objects not yet assigned.
assign       - Assign VSN object to VSN number.
done         - Return to the previous menu.
```

load

/sci/files/vsn/install

Action

Executes a function.

Function

Load more VSN objects from a UNIX tar disk.

Accessed By

Service, admin accounts.

Description

The `load` option loads files from a UNIX tar floppy disk into temporary storage space on the MRS. Once the files are loaded, use the `assign` option to assign the files to VSNs. Unassigned files are automatically deleted when exiting the `/sci/files/vsn/install` menu.

See also

`view` and `assign` (`/sci/files/vsn/install` menu)

Example

This example loads the `myfile` file on the MRS.

```
/sci/files/vsn/install> load
Restoring Data files from Backup Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quite)
x myfile, 182 bytes, 1K
```

dosload

/sci/files/vsn/install

Action

Executes a function.

Function

Load more VSN objects from a DOS disk.

Accessed By

Service, admin accounts.

Description

The `dosload` option loads files from a DOS floppy disk into temporary storage space on the MRS. Once the files are loaded, use the `assign` option to assign the files to VSNs. Unassigned files are automatically deleted when exiting the `/sci/files/vsn/install` menu.

See also

`view` and `assign` (`/sci/files/vsn/install` menu)

view

/sci/files/vsn

Action

Executes a function.

Function

List VSN objects not yet assigned.

Accessed By

Service, admin accounts.

Description

The `view` option lists those files that have been loaded on the MRS from floppy disk with the `load` or `dosload` option but have not yet been assigned to a VSN. Unassigned files are automatically deleted when exiting the `/sci/files/vsn/install` menu.

See also

`load`, `dosload`, and `assign` (`/sci/files/vsn/install` menu)

assign

/sci/files/vsn

Action

Executes a function.

Function

Assign VSN object to VSN number.

Accessed By

Service, admin accounts.

Description

The `assign` option assigns a file to a VSN. The file was previously loaded on the MRS from floppy disk with the `load` or `dosload` option and is currently in temporary storage. Unassigned files can be listed with the `view` option. Unassigned files are automatically deleted when exiting the `/sci/files/vsn/install` menu.

Normally, you select a VSN number greater than 500 (prompts loaded on the MRS are assigned numbers 0–500). If the VSN already exists, you are prompted about whether or not to overwrite the VSN.

Unlike the `assign` option on the `/sci/files/fax` submenu, this option automatically creates a VSN header based on your responses to prompts about the file being stored. This option provides a simple method for creating VSNs in the T.434 format required for BFT.

See also

`load`, `dosload`, and `view` (`/sci/files/vsn/install` menu)

Example:

This example loads the binary file `myfile` from a UNIX tar disk, and assigns the file to VSN 1500 with a BFT-type header.

```
/sci/files/vsn/install> assign
What is the type of the VSN to add the header to?
Current Choose the VSN type:  = 1
1          - ADPCM (Voice file)
2          - FAX
3          - ASCII (text file)
```

```
4          - A-law (European PCM file)
5          - Mu-law (American PCM file)
6           - ADSI
7           - EPSON
8           - BFT
default     - ADPCM
        Choose the VSN type:  = 8

Type in a comment string up to 160 characters:
 This is a Binary Transfer File VSN
Default VSN to copy myfile to = 0
     VSN to copy myfile to = 1500
```

delete

/sci/files/vsn

Action

Executes a function.

Function

Delete VSN files.

Accessed By

Service, admin accounts.

Description

The `delete` option accesses a submenu of options for removing a single VSN or range of VSN files from the MRS's file system.When you select the `delete` option, the SCI lists options `vsn`, `range`, and `done`. Use the `vsn` option to delete a single VSN and the `range` option to remove a range of VSNs. To specify a range, enter the beginning VSN and the ending VSN, separated by a single space. For example, to delete VSNs 0030 through 0035 hexadecimal, you would specify 0x0030 0x0035. The SCI assumes that you are entering the VSN identifier in decimal notation unless you precede the VSN number by 0x. The SCI displays all VSN file identifiers in hexadecimal.

CAUTION

Risk of data loss

If you attempt to delete a VSN using an invalid identifier (for example, out of range), the `delete` option defaults to VSN 0x0000 and prompts you to confirm your entry. Make sure you respond with NO to this prompt. Otherwise, VSN 0x0000 will be deleted.

If you enter a nonexisting VSN identifier, the SCI indicates that the delete operation failed.

See also

`map` (`/sci/files/vsn` menu), `clear` (`/sci/files/vsn` menu)

Example

This example deletes VSN 0x2711.

```
/sci/files/vsn>  delete
vsn     - Delete a single VSN.
range   - Delete a range of VSNs.
done    - Return to the previous menu.
/sci/files/vsn/delete>  vsn
Default VSN to delete = 0
        VSN to delete =  0x2711
Ready to Delete VSN 0x2711
Are you sure you wish to delete this VSN?
Current continue?  = yes
yes     - Continue with operation.
no      - Return to previous menu.
          continue?  = yes
VSN 0x2711 - Deleted Successfully
/sci/files/vsn>
```

clear

/sci/files/vsn

Action

Executes a function.

Function

Clear a VSN volume of all VSNs.

Accessed By

Service, admin accounts.

Description

The `clear` option deletes all VSNs on the selected VSN volume. A VSN volume is a virtual disk on one of the MRS's physical disks where a range of VSN files resides (refer to the `map` option).

> ***Note:*** You should ensure that any VSN files residing on the volume that you may need in the future are backed up to floppy disk.

See also

`map` (`/sci/files/vsn` menu), `delete` (`/sci/files/vsn` menu)

usage

/sci/files/vsn

Action

Executes a function.

Function

Display the VSN volume utilization.

Accessed By

Service, admin, user accounts.

Description

The `usage` option displays the allocated space on VSN volumes. This option shows disk space utilization among all of the VSN volumes and the amount of free disk space.

See also

`map` (`/sci/files/vsn` menu)

Example

The example illustrates an MRS configured with two VSN volumes. Volume 1 has a total storage capacity of 212 MBytes. Currently 9.3 MBytes are used, leaving 202.7 MBytes free for storing new VSN files.

```
/sci/files/vsn>  usage
VOLUME 1 - Capacity = 212.0MB    Used =  9.3MB    Free = 202.7MB
VOLUME 2 - Capacity = 319.0MB    Used =  4.1MB    Free = 314.9MB
VOLUME 3 - Not Present or Not Formatted
VOLUME 4 - Not Present or Not Formatted
/sci/files/vsn>
```

backup

/sci/files/vsn

Action

Executes a function.

Function

Back up VSNs to a floppy disk.

Accessed By

Service, admin, user accounts.

Description

The `backup` option saves a backup copy of a VSN or range of VSNs to a floppy disk. The SCI assumes that you are entering the VSN identifier in decimal notation unless you precede the VSN number by 0x. The SCI displays all VSN file identifiers in hexadecimal. The floppy disks you use for backing up VSNs must be formatted using the `prepare` option (`/sci/files` menu). If the amount of data to be backed up exceeds the capacity of the disk, the MRS will prompt you to insert successive disks. Consequently, whenever you intend to do a backup, you should have additional formatted disks available.

> ***Note:*** Always keep a backup of your system application prompts. Also, clearly label backup disks for easy access.

See also

`map` (`/sci/files/vsn` menu), `prepare` (`/sci/files` menu), `restore` (`/sci/files` menu)

Example

This example illustrates backing up a range of VSNs to floppy disk, from VSN 0x0000 to 0x000b.

```
/sci/files/vsn>  backup
Starting vsn number:  0x0000
Ending vsn number:  0x000b
Saving Data Files 0000 000b to Floppy
/Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
seek = 0Ka /vrs/vsn/drivea/vsn00/vsn0000 3K
```

```
seek = 4Ka /vrs/vsn/drivea/vsn00/vsn0001 3K
seek = 7Ka /vrs/vsn/drivea/vsn00/vsn0002 3K
seek = 10Ka /vrs/vsn/drivea/vsn00/vsn0003 3K
seek = 13Ka /vrs/vsn/drivea/vsn00/vsn0004 3K
seek = 16Ka /vrs/vsn/drivea/vsn00/vsn0005 3K
seek = 20Ka /vrs/vsn/drivea/vsn00/vsn0006 3K
seek = 23Ka /vrs/vsn/drivea/vsn00/vsn0007 2K
seek = 25Ka /vrs/vsn/drivea/vsn00/vsn0008 2K
seek = 28Ka /vrs/vsn/drivea/vsn00/vsn0009 3K
seek = 31Ka /vrs/vsn/drivea/vsn00/vsn000a 3K
seek = 34Ka /vrs/vsn/drivea/vsn00/vsn000b 3K
Done Saving Files
/sci/files/vsn>
```

map

/sci/files/vsn

Action

Executes a function.

Function

Display the current VSN allocation map.

Accessed By

Service, admin, user accounts.

Description

The `map` option displays how VSN files are mapped on the available VSN volumes. You may find this useful for troubleshooting (for example, you might compare the VSN map against a prompt, message, and fax map associated with your application running on the application server).

Each VSN file is identified by a unique four-digit hexadecimal number. Table 7-5 lists the VSN number ranges available to each VSN volume. The `map` option displays the VSN files that have been created on each of the VSN volumes, starting with Volume 1.

Table 7-5: VSN numbers supported on VSN volumes

VSN volume	Hexadecimal	(Decimal)
1	0000–3FFF	00000–16383
2	4000–7FFF	16384–32767
3	8000–BFFF	32768–49151
4	C000–FFFF	49152–65535

Example

The `map` option displays the map for each VSN volume, starting with Volume 1. This example shows the first screen of the map.

```
/sci/files/vsn>  map
Composing VSN map ... Please Wait
VOLUME 1 contains:
0000    0001    0002    0003    0004    0005    0006    0007
0008    0009    000a    000b    000c    000d    000e    000f
0010    0011    0012    0013    0014    0015    0016    0017
0018    0019    001a    001b    001c    001d    001e    001f
0020    0021    0022    0023    0024    0025    0026    0027
0028    0029    002a    002b    002c    002d    002e    002f
0030    0031    0032    0033    0034    0035    0036    0037
0038    0039    003a    003b    003c    003d    003e    003f
0040    0041    0042    0043    0044    0045    0046    0047
0048    0049    004a    004b    004c    004d    004e    004f
0050    0051    0052    0053    0054    0055    0056    0057
0058    0059    005a    005b    005c    005d    005e    005f
0060    0061    0062    0063    0064    0065    0066    0067
0068    0069    006a    006b    006c    006d    006e    006f
0070    0071    0072    0073    0074    0075    0076    0079
007a    007b    007c    007d    007e    007f    0080    0081
0082    0083    0084    0085    0086    0087    0088    0089
008a    008b    008c    008d    008e    008f    0090    0091
0092    0093    0094    0095    0096    0097    0098    0099
00d4    00d5    00e4    00e5    00e6    00e7    00e8    00e9
00ea    00eb    00ec    00ed    00ee    00ef    00f0    00f1
00f2    00f3    00f4    00f5    00f6    00f7    00f8    00f9
:
```

fax

/sci/files

Action

Access submenu.

Function

Perform fax management functions.

Accessed By

Service, admin accounts.

Description

The `fax` option accesses a submenu of options for managing fax objects stored on the MRS. This option is available only if the `fax` option is installed in the MRS and activated. Fax objects include logos, signatures, and special forms files that you may want to merge with an ASCII text file prior to converting the file to fax-ready format. You can load fax objects onto the MRS, and then assign each object to a fax set. A fax set is a storage area similar to a directory in a file system. The MRS supports up to 256 fax sets. By default, fax objects are stored in fax set 1.

As you work in this menu environment, you can view the objects assigned to a fax set, that are still unassigned. You can delete a fax object, as well as back up your fax sets to floppy disk. Select the `done` option to return to the `/sci` menu environment.

Example

```
/sci/files>  fax
load     - Load more Fax Objects from a UNIX-TAR disk.
dosload  - Load more Fax Objects from a DOS disk.
view     - List Fax Objects not yet assigned.
map      - List Fax Objects in a Form Set.
form     - Assign a Fax Object to a Form number.
sign     - Assign a Fax Object to a Signature number.
logo     - Assign a Fax Object as a Logo.
default  - Assign a Fax Object as a default file.
listdef  - List defined default files.
editdef  - Edit a default file.
delete   - Delete a Fax Object from a Fax set.
backup   - Backup from the Fax directory.
done     - Return to the previous menu.
```

load

/sci/files/fax

Action

Executes a function.

Function

Load more fax objects from a UNIX tar disk.

Accessed By

Service, admin accounts.

Description

The `load` option loads fax objects onto the MRS from a floppy disk that has been formatted with the UNIX tar command. The floppy disk (3.5 inch, high-density) must contain files only (no directories) identified by relative path name.

> ***Note:*** Loading fax objects onto the MRS places the objects in a temporary storage area. You should assign each fax object as a form, signature, or logo in a fax set (`form`, `sign`, or `logo` option). Fax objects that are not assigned to a fax set are automatically deleted when you exit the `/sci/files/fax` menu environment.

See also

`dosload` (`/sci/files/fax` menu)

Example

```
/sci/files/fax>  load
Loading Files from Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
Retrieving JLSIGN.TIF
Retrieving JLFORM.TIF
Retrieving JLOGO.TIF
Retrieving JLDEF.TIF
/sci/files/fax>
```

dosload

/sci/files/fax

Action

Executes a function.

Function

Load more fax objects from a DOS disk.

Accessed By

Service, admin accounts.

Description

The `dosload` option loads fax objects from a floppy disk formatted under DOS. The floppy disk (3.5 inch, high-density) must contain files only (no directories), and each file name must include an extension (any extension is accepted).

> ***Note:*** Loading fax objects on the MRS places the objects in a temporary storage area. You should assign each fax object as a form, signature, or logo in a fax set (`form`, `sign`, or `logo` option). Fax objects that are not assigned to a fax set are automatically deleted when you exit the `/sci/files/fax` menu environment.

See also

`load` (`/sci/files/fax` menu)

Example

This example loads several fax objects from a floppy disk formatted under DOS.

```
/sci/files/fax>  dosload
Insert the DOS floppy - type q to quit or hit ENTER to continue:
Retrieving JLSIGN.TIF
Retrieving JLFORM.TIF
Retrieving JLOGO.TIF
Retrieving JLDEF.TIF
/sci/files/fax>
```

view

/sci/files/fax

Action

Executes a function.

Function

List fax objects not yet assigned.

Accessed By

Service, admin accounts.

Description

The `view` option displays fax objects that have been loaded on the MRS but not assigned to a specific fax set.

> ***Note:*** Loading fax objects on the MRS places the objects in a temporary storage area. You should assign each fax object as a form, signature, or logo in a fax set (`form`, `sign`, or `logo` option). Fax objects that are not assigned to a fax set are automatically deleted when you exit the `/sci/files/fax` menu environment.

See also

`map` (`/sci/files/fax` menu), `logo` (`/sci/files/fax` menu), `sign` (`/sci/files/fax` menu), `form` (`/sci/files/fax` menu), `default` (`/sci/files/fax` menu)

Example

This example shows four files that have been loaded on the MRS but not yet assigned to a fax set.

```
/sci/files/fax>  view
JLDEF.TIF   JLFORM.TIF  JLOGO.TIF   JLSIGN.TIF
/sci/files/fax>
```

map

/sci/files/fax

Action

Executes a function.

Function

List fax objects in a fax set.

Accessed By

Service, admin accounts.

Description

The `map` option displays the contents of a fax set. When you enter this option, the SCI prompts you to identify the fax set. The default fax set is 1.

See also

`view` (`/sci/files/fax` menu), `logo` (`/sci/files/fax` menu), `sign` (`/sci/files/fax` menu), `form` (`/sci/files/fax` menu), `default` (`/sci/files/fax` menu)

Example

This example lists the contents of fax set 1, which contains a logo, signature, and form. Signatures and forms are identified by number, whereas logos are recognized by name. In this case, the fax set contains signature 1, form 10, and a logo named “vlogo.”

```
/sci/files/fax>  map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait  sign0001.fax
   form0010.fax         vlogo
/sci/files/fax>
```

form

/sci/files/fax

Action

Executes a function.

Function

Assign a fax object to a form number.

Accessed By

Service, admin accounts.

Description

The `form` option assigns a fax object to a fax set as a special form. When you select this option, the SCI prompts you to identify the fax set where the fax object should be stored, the name of the unassigned fax object, and the form number to be assigned. The assigned form is named `formxxxx.fax`, where `xxxx` is the number you specified.

See also

`logo` (`/sci/files/fax` menu), `sign` (`/sci/files/fax` menu), `default` (`/sci/files/fax` menu)

Example

This example assigns unassigned form JFORM.TIF to fax set 1 as form number 1. Notice that displaying the map of fax set 1 shows the new form.

```
/sci/files/fax>  form
Default fax set to assign to = 1
  fax set to assign to =
Enter the file to assign:JFORM.TIF
Enter the form number to use:  1
/sci/files/fax>  map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait
   sign0001.fax        form0001.fax       vlogo
```

sign

/sci/files/fax

Action

Executes a function.

Function

Assign a fax object to a signature number.

Accessed By

Service, admin accounts.

Description

The `sign` option assigns a fax object to a fax set as a signature. When you select this option, the SCI prompts you to identify the fax set where the fax object should be stored, the name of the unassigned fax object, and the signature number to be assigned. The assigned signature is named `signxxxx.fax`, where `xxxx` is the number you specified.

See also

`logo` (`/sci/files/fax` menu), `form` (`/sci/files/fax` menu), `default` (`/sci/files/fax` menu)

Example

This example assigns unassigned form JLSIGN.TIF to fax set 1 as signature number 5. Displaying the map of the fax set shows the new signature.

```
/sci/files/fax>  sign
Default fax set to assign to = 1
  fax set to assign to =
Enter the file to assign: JLSIGN.TIF
Enter the sign number to use:  5
/sci/files/fax> map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait
  sign0005.fax     form0001.fax          vlogo
```

logo

/sci/files/fax

Action

Executes a function.

Function

Assign a fax object as a logo.

Accessed By

Service, admin accounts.

Description

The `logo` option assigns a fax object to a fax set as a logo. When you select this option, the SCI prompts you to identify the fax set where the fax object should be stored, the name of the unassigned fax object, and the name to be assigned to the new logo.

See also

`sign` (`/sci/files/fax` menu), `form` (`/sci/files/fax` menu), `default` (`/sci/files/fax` menu)

Example

This example assigns unassigned object JLOGO.TIF to fax set 1 as logo2. Displaying the map of the fax set shows the new logo.

```
/sci/files/fax>  logo
Default Fax set to assign to = 1
  Fax set to assign to =
Enter the file to assign:  JLOGO.TIF
Enter the logo name to use:  logo2
sci/files/fax> map
Default fax set to display = 1
  fax set to display =  1
Composing FORMS map ... Please Wait
  sign0005.fax     form0001.fax   vlogo   logo2
```

default

/sci/files/fax

Action

Executes a function.

Function

Assign a fax object as a defaults file.

Accessed By

Service, admin accounts.

Description

The `default` option is an obsolete command. It was available for fax technology prior to MRS software 4.0.

listdef

/sci/files/fax

Action

Executes a function.

Function

List defined default files.

Accessed By

Service, admin accounts.

Description

The `listdef` option is an obsolete command. It was available for fax technology prior to MRS software 4.0.

editdef

/sci/files/fax

Action

Executes a function.

Function

Edit a default file.

Accessed By

Service, admin accounts.

Description

The `editdef` option is an obsolete command. It was available for fax technology prior to MRS software 4.0.

delete

/sci/files/fax

Action

Executes a function.

Function

Delete a fax object from a fax set.

Accessed By

Service, admin accounts.

Description

The `delete` option deletes a form, signature, or logo from a fax set. The SCI prompts you to identify the type of fax object to be deleted and then the fax object to be deleted. If the object is a form, signature, or logo, the SCI also prompts you to identify the fax set where it resides.

Example

This example deletes form0005.fax from fax set 1. Notice that you identify the form simply by its number.

```
/sci/files/fax>  delete
Current type of object to delete?  = form
default- Defaults file.
form- Forms file.
sign- Signature file.
logo- Logo file.
  type of object to delete?  = form
Default Fax set to delete from = 1
  Fax set to delete from =1
Enter the form number to delete:  5
Ready to Delete Form 0005
Are you sure you wish to delete this file?
Current continue?  = yes
yes- Continue with operation.
no- Return to previous menu.
  continue?  = yes
```

backup

/sci/files/fax

Action

Executes a function.

Function

Back up from the fax directory.

Accessed By

Service, admin accounts.

Description

The `backup` option allows you to save a copy of the selected fax set to floppy disk. When you enter the `backup` option, the SCI prompts you to insert a floppy disk into the MRS's floppy disk drive, and then to identify the fax set to be backed up. The default fax set is 1. The floppy disks you use for backing up your the fax set must be formatted using the `prepare` option (`/sci/files` menu).

If the amount of data to be backed up exceeds the capacity of the disk, the MRS will prompt you to insert successive disks. Consequently, whenever you intend to do a backup, you should have additional formatted disks available. Also, clearly label backup disks for easy access.

See also

`prepare` (`/sci/files` menu), `restore` (`/sci/files` menu)

Example

This example backs up fax set 1, which currently contains four fax objects.

```
/sci/files/fax>  backup
Default Fax set to backup = 1
  Fax set to backup =
Backing up Forms Set to Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
seek = 0Ka /vrs/vsn/fax/form00/256logo 8K
seek = 8Ka /vrs/vsn/fax/form00/svlogo 12K
seek = 21Ka /vrs/vsn/fax/form00/vlogo 38K
seek = 59Ka /vrs/vsn/fax/form00/sign0001.fax 3K
```

vocab

/sci/files

Action

Access a submenu.

Function

Perform vocabulary management functions.

Accessed By

Service, admin accounts.

Description

The `vocab` option accesses a menu of options for managing the ASR vocabulary set installed on the MRS by technology type (for example, VR/160- or Antares-based ASR).

Example

```
/sci/files>  vocab
vr160        - Perform vr/160 vocabulary management functions.
antares      - Perform antares vocabulary management functions.
done         - Return to the previous menu.
cancel       - Return to the previous menu without saving
changes.
```

vr160

/sci/files/vocab

Action

Access a submenu.

Function

Perform VR/160 vocabulary management functions.

Accessed By

Service, admin accounts.

Description

The `vr160` option accesses a menu of options for managing the VR/160-based ASR vocabulary set installed on the MRS.

Each vocabulary set consists of one or more subvocabularies, or indexes, where each index identifies a specific group of words.

> ***Note:*** Symposium OPEN IVR supports only one vocabulary set at a time.

For example, the default vocabulary set is "North American." This vocabulary consists of these indices identified correspondingly by 0 and 1:

- NA English Digits
- NA English Yes/No

The words associated with each index are mapped to specific hexadecimal values that are returned to Symposium OPEN IVR for further call flow processing.

If you load a new vocabulary set, each index must be assigned and enabled before it can be used by the application.

The `vr160` menu options allow you to list assigned vocabulary indexes, delete an index, load a new vocabulary set, assign the loaded indexes, and enable or disable an index. Once you exit the `vr160` menu, indices that are not added (that is, assigned) are removed.

Example

```
/sci/files/vocab>  vr160
list          - List installed Vocabularies.
load         - Load more Vocabulary Objects from a UNIX-TAR disk.
dosload       - Load more Vocabulary Objects from a DOS disk.
view          - List Vocabulary Objects not yet assigned.
mapedit       - Edit Vocabulary mapping for a vocabulary.
maplist       - List Vocabulary mapping for a vocabulary.
add           - Add a Vocabulary index entry.
change        - Change Recognizer’s Vocabulary.
edit          - Edit a Vocabulary index entry.
delete        - Delete a Vocabulary index entry.
done          - Return to the previous menu.
cancel        - Return to the previous menu without saving
changes.
```

list

/sci/files/vocab/vr160

Action

Executes a function.

Function

List a vocabulary index.

Accessed By

Service, admin accounts.

Description

The `list` option lists the vocabulary indices that are already installed on the MRS. You can list all vocabulary indices or only those that are currently enabled. This option displays the associated ID, name, type (for example, discrete or continuous), and size (number of entries that are mapped).

See also

`maplist` (`/sci/files/vocab/vr160` menu)

Example

The following example displays the `list` menu options and then lists all indices that are assigned. Keep in mind that Symposium OPEN IVR cannot use an assigned vocabulary index until it has been enabled. As shown here, the North American English Digits and North American English Yes/No indices are installed. The NA English Digits index is assigned ID 0. It is discrete and consists of 12 digits. If you use the `maplist` option, you will see each of the 12 entries.

```
/sci/files/vocab/vr160>  list
all          - List all index entries.
enabled      - List enabled index entries.
done         - Return to the previous menu.

/sci/files/vocab/list>  all
  ID DESCRIPTION                    TYPE SIZE NAME
   0 NA English Digits              disc 12   naengstd
   1 NA English Yes/No              disc 5    naengstd
   0 NA English Digits              cont 11   naengstd
   1 NA English Yes/No              cont 2    naengstd
```

load

/sci/files/vocab/vr160

Action

Executes a function.

Function

Load more vocabulary objects from a UNIX tar disk.

Accessed By

Service, admin accounts.

Description

The `load` option loads a vocabulary set from a UNIX tar disk that you place in the MRS's floppy disk drive. Each vocabulary consists of one or more indices, where an index identifies a specific group of words. This option displays each index by name and size. Loading a vocabulary does not install the indices for use by Symposium OPEN IVR. You must assign each index to be used (with the `add` option) and then enable them (`enable` option).

> ***Note:*** Before loading a new vocabulary, you should delete the currently installed vocabulary. Symposium OPEN IVR supports only one vocabulary at a time.

See also

`delete` (`/sci/files/vocab/vr160`), `add` (`/sci/files/vocab/vr160`)

Example

```
/sci/files/vocab/vr160>  load
Restoring Data Files from Backup Floppy
Please Insert the First Disk and hit ENTER to Continue (or q to
quit)
x .preview, 50 bytes, 1K
x 0.i, 137 bytes, 1K
x 1.i, 136 bytes, 1K
x naengstd.0.m, 133 bytes, 1K
x naengstd.1.m, 71 bytes, 1K
x naengstd.vb2, 185498 bytes, 182K
x naengstd.vt2, 712 bytes, 1K
x /tmp/tar.last_file, 0 bytes, 0K
Done Reading Files
```

dosload

/sci/files/vocab/vr160

Action

Executes a function.

Function

Load more vocabulary objects from a DOS disk.

Accessed By

Service, admin accounts.

Description

The `dosload` option loads a vocabulary from a DOS disk that you place in the MRS's floppy disk drive. Each vocabulary consists of one or more indices, where an index identifies a specific group of words. This option displays each index by name and size. Loading a vocabulary does not install the indices for use by Symposium OPEN IVR. You must assign each index to be used (with the `add` option) and then enable them (`enable` option).

> ***Note:*** Before loading a new vocabulary set, you should delete the currently installed vocabulary set. Symposium OPEN IVR supports only one vocabulary at a time.

See also

`delete` (`/sci/files/vocab/vr160`), `add` (`/sci/files/vocab/vr160`)

view

/sci/files/vocab/vr160

Action

Executes a function.

Function

List vocabulary objects not yet assigned.

Accessed By

Service, admin accounts.

Description

Note 1: The `view` option lists the vocabulary indices that have been loaded on the MRS but not yet assigned with the `add` option.

Note 2: When you exit the `vocab` menu, unassigned indices are removed.

See also

`add` (`/sci/files/vocab/vr160`)

Example

```
/sci/files/vocab/vr160>  view
.preview      1.i           naengstd.1.m  naengstd.vt2
0.i           naengstd.0.m  naengstd.vb2
```

mapedit

/sci/files/vocab/vr160

Action

Executes a function.

Function

Edit vocabulary mapping for a specific vocabulary index.

Accessed By

Service, admin accounts.

Description

The `mapedit` option allows you to modify the hexadecimal value that is mapped to a specific word in the vocabulary index. The hexadecimal value is returned to the Symposium OPEN IVR application whenever the `speech recognition` option interprets a caller's speech as the corresponding word in the index.

See also

`maplist` (`/sci/files/vocab`)

Example

The following example changes the hexadecimal value to be returned to Symposium OPEN IVR for the word "three" to 0x1F.

```
/sci/files/vocab/vr160>  mapedit
Please enter the vocabulary ID for mapedit:  0
Current Type of vocabulary?  = discrete
continuous  - Continuous vocabulary.
discrete    - Discrete vocabulary.
        Type of vocabulary?  =
Entry  0.  Default: 0x1 (1), Text: one.
Enter new value in hex (enter return if no change):
Entry  1.  Default: 0x2 (2), Text: two.
Enter new value in hex (enter return if no change):
Entry  2.  Default: 0x3 (3), Text: three.
Enter new value in hex (enter return if no change):
Entry  3.  Default: 0x4 (4), Text: four.
Enter new value in hex (enter return if no change):
Entry  4.  Default: 0x5 (5), Text: five.
Enter new value in hex (enter return if no change):
```

```
Entry  5.  Default: 0x6 (6), Text: six.
Enter new value in hex (enter return if no change):
Entry  6.  Default: 0x7 (7), Text: seven.
Enter new value in hex (enter return if no change):
Entry  7.  Default: 0x8 (8), Text: eight.
Enter new value in hex (enter return if no change):
Entry  8.  Default: 0x9 (9), Text: nine.
Enter new value in hex (enter return if no change):
Entry  9.  Default: 0xA (10), Text: zero.
Enter new value in hex (enter return if no change):
Entry 10.  Default: 0xA (10), Text: oh.
Enter new value in hex (enter return if no change):
Entry 11.  Default: 0xF (15), Text: stop.
Enter new value in hex (enter return if no change):
```

maplist

/sci/files/vocab/vr160

Action

Executes a function.

Function

List word mapping for a vocabulary.

Accessed By

Service, admin accounts.

Description

The `maplist` option lists the map of a specific vocabulary index. Each word included in a vocabulary index is associated with a hexadecimal value that is returned to Symposium OPEN IVR for further call flow processing.

Example

This example lists the contents of vocabulary index 0. As shown here, if the `speech recognition` option interprets the caller's speech as the word "three," the MRS will return the value 0x3 to the application call flow. The entry numbers simply identify the number of index entries and have no effect on the processing of speech recognition transactions.

```
/sci/files/vocab/vr160>  maplist
Please enter the vocabulary ID for maplist:  0
Current Type of vocabulary?  = discrete
continuous  - Continuous vocabulary.
discrete    - Discrete vocabulary.
        Type of vocabulary?  =
Entry     Result   Text
    0.   0x1 ( 1)  one
    1.   0x2 ( 2)  two
    2.   0x3 ( 3)  three
    3.   0x4 ( 4)  four
    4.   0x5 ( 5)  five
    5.   0x6 ( 6)  six
    6.   0x7 ( 7)  seven
    7.   0x8 ( 8)  eight
    8.   0x9 ( 9)  nine
    9.   0xA (10)  zero
   10.   0xA (10)  oh
   11.   0xF (15)  stop
```

add

/sci/files/vocab/vr160

Action

Executes a function.

Function

Add a vocabulary index entry.

Accessed By

Service, admin accounts.

Description

The `add` option assigns a loaded, yet unassigned, vocabulary index to the MRS. An assigned index is installed but must be enabled before Symposium OPEN IVR can access it. Unassigned indices are removed from the MRS when you exit the `vocab` menu.

See also

`enable` (`/sci/files/vocab/vr160`)

Example

The following example shows that there are two unassigned vocabulary indices and then assigns the NA English Digits index.

```
/sci/files/vocab/vr160>  add
Choose one of the following Vocabulary IDís to load.

  ID.  Description
   0.  NA English Digits
   1.  NA English Yes/No
(return)  To exit

Please enter the vocabulary ID for add:  0
```

change

/sci/files/vocab/vr160

Action

Executes a function.

Function

Change the recognizer's vocabulary.

Accessed By

Service, admin accounts.

Description

The `change` option allows you to modify the vocabulary for a voice recognizer.

Example

```
/sci/files/vocab/vr160>  change
Please enter the recognizer number :  1
  ID DESCRIPTION                    TYPE SIZE NAME
   0 NA English Digits              disc 12   naengstd
   1 NA English Yes/No              disc 5    naengstd
   0 NA English Digits              cont 11   naengstd
   1 NA English Yes/No              cont 2    naengstd
Default Enter the new Vocabulary ID = 0
        Enter the new Vocabulary ID =  1
Current Type of vocabulary?  = discrete
continuous  - Continuous vocabulary.
discrete    - Discrete vocabulary.
        Type of vocabulary?  = c
```

edit

/sci/files/vocab/vr160

Action

Executes a function.

Function

Edit a vocabulary index entry.

Accessed By

Service, admin accounts.

Description

The `edit` option allows you to modify the ID of a specific vocabulary index. This option is useful when the ID is not supported by Symposium OPEN IVR. In this instance, you can change the ID to one of the Symposium OPEN IVR user-defined vocabulary IDs.

Example

The following example illustrates changing the ID of the Swiss Multilingual index, which was previously loaded as ID 0, to ID 70, a user-defined vocabulary ID supported by Symposium OPEN IVR.

```
/sci/files/vocab/vr160>  edit
Please enter the vocabulary ID for edit:  0
Default Enter the new Vocabulary ID = 0
        Enter the new Vocabulary ID =  70
```

delete

/sci/files/vocab/vr160

Action

Executes a function.

Function

Delete a vocabulary index entry.

Accessed By

Service, admin accounts.

Description

Remove an installed vocabulary index from the MRS.

Example

```
/sci/files/vocab/vr160>  delete
Please enter the vocabulary ID for delete:  0
Current Do you want to continue?  = yes
yes           - Continue with operation.
no            - Return to previous menu.
        Do you want to continue?  = yes
```

antares

/sci/files/vocab

Action

Access a submenu.

Function

Perform Antares vocabulary management functions.

Accessed By

Service, admin accounts.

Description

The `antares` option accesses a submenu for managing an Antares-based vocabulary set.

Example

```
/sci/files/vocab>  antares
listidmap    - List a Symposium OPEN IVR ==> vendor vocabulary id
mapping.
editidmap    - Edit a Symposium OPEN IVR ==> vendor vocabulary id
mapping.
listids      - list vocabulary ids supported by each recognizer.
editids      - edit vocabulary ids supported by each recognizer.
listdtmfmap  - List DTMF (GDAT/MENU cell) mapping for a vendor's
vocabulary
editdtmfmap  - Edit DTMF (GDAT/MENU cell) mapping for a vendor's
vocabulary
done         - Return to the previous menu.
cancel       - Return to the previous menu without saving
changes.
```

listidmap

/sci/files/vocab/antares

Action

Executes a function.

Function

List a Symposium OPEN IVR vendor vocabulary ID map.

Accessed By

Service, admin accounts.

Description

The `listidmap` option lists a vocabulary ID map based on the available Antares-ASR technologies.

Example

```
/sci/files/vocab/antares>  listidmap vcs_antares
99 3
1 1
```

editidmap

/sci/files/vocab/antares

Action

Accesses a submenu.

Function

Edit a Symposium OPEN IVR vendor vocabulary ID map.

Accessed By

Service, admin accounts.

Description

The `editidmap` option accesses a submenu of available Antares-based ASR technologies so that you can edit the `VOCABMAP` file. The `VOCABMAP` file links AP software subvocabulary IDs with MRS software IDs associated with subvocabularies loaded on the MRS.

Once you select the technology, the SCI opens the corresponding `VOCABMAP` file with the vi editor. Saving the file overwrites the file.

> ***Note:*** The contents of the `VOCABMAP` file will vary according to available speech technologies. For example, for VCS/Antares ASR, the file maps the AP software ID to the numerical subvocabulary ID. For PureSpeech ASR, the file maps the AP software ID to the vocabulary `.ini` file.

Example

```
/sci/files/vocab/antares>  editidmap
Current Vendor?  = vcs_antares
vcs_antares - Antares DSP board
purespeech  - Purespeech vocabulary map.
lh         - L & H vocabulary map.
        Vendor?  = vcs_antares
No lines in the buffer
“/usr/vrs/parms/asr/vcsant/vocabmap.tmp” 3 lines, 13 characters
1 1
99 3
~
~
~
~
~
```

```
~
~
~
~
~
~
~
~
~
~
~
~
~
/usr/vrs/parms/asr/vcsant/vocabmap.tmp" 3 lines, 13
```

listids

/sci/files/vocab/antares

Action

Executes a function.

Function

List vocabulary IDs supported by each recognizer.

Accessed By

Service, admin accounts.

Description

The `listids` lists the vocabulary IDs supported by each recognizer.

Example

```
/sci/files/vocab/antares>  listids
Board #  Board Type            Board Type #
 1       ANTARES BOARD NUMBER   1
Enter the board number for the ids you wish to view 1
        Loaded on DSP1
        VOCAB IDS: 0

        Loaded on DSP2
        VOCAB IDS: 0 1 2

        Loaded on DSP3
        VOCAB IDS: 0 1 2

        Loaded on DSP4
        VOCAB IDS: 0
```

editids

/sci/files/vocab/antares

Action

Executes a function.

Function

Edit vocabulary IDs supported by each recognizer.

Accessed By

Service, admin accounts.

Description

The `editids` option edits vocabulary IDs supported by each recognizer (DSP). IDs are also assigned when the Antares module is added with the `/sci/setup/trkbrd` option.

Example:

```
/sci/files/vocab/antares>  editids
Board #  Board Type            Board Type #
 1       ANTARES BOARD NUMBER   1
Enter the board number for the ids you wish to edit 1
Enter the DSP number whose vocabids you wish to edit 1

Enter vocab ids 0 to 255 seperated by a space or <CR> at
the prompt when complete
Enter ids:
You must enter atleast one vocab id, try again


Enter vocab ids 0 to 255 seperated by a space or <CR> at
the prompt when complete
Enter ids:  0
Continue entering ids or <CR>:
```

listdtmfmap

/sci/files/vocab/antares

Action

Executes a function.

Function

Lists DTMF (GDAT/MENU cell) mapping for a vendor's vocabulary.

Accessed By

Service, admin accounts.

Description

The `listdtmfmap` option lists DTMF (for use by the GDAT or MENU cell) mapping for a vendor's vocabulary.

Example

```
/sci/files/vocab/antares>  listdtmfmap
Current Vendor?  = vcs_antares
vcs_antares - Antares DSP board
purespeech  - Purespeech vocabulary map.
hark       - Hark vocabulary map.
lh         - L & H vocabulary map.
        Vendor?  =
Please enter the vocab id number:  1
“0”   1
“1”   2
```

editdtmf

/sci/files/vocab/antares

Action

Executes a function.

Function

Edits DTMF (GDAT/MENU cell) mapping for a vendor's vocabulary.

Accessed By

Service, admin accounts.

Description

The `editdtmfmap` option edits DTMF (for use by the GDAT or MENU cell) mapping for a vendor's recognition strings. (Refer to the associated *Symposium OPEN IVR 4.0 Cell Catalog* and vendor documentation.)

The SCI continues to prompt you for result strings until you press <Enter> twice.

Example

```
/sci/files/vocab/antares>  editdtmfmap
Current Vendor?  = vcs_antares
vcs_antares - Antares DSP board
purespeech  - Purespeech vocabulary map.
hark        - Hark vocabulary map.
lh          - L & H vocabulary map.
        Vendor?  = purespeech
Please enter the vocab id number:  0

Enter the string to be associated with a DTMF
character or <CR> at prompt when complete
You will then be prompted for the DTMF char

enter string or <CR>:
```

tts

/sci/files

Action

Accesses a submenu.

Function

Perform tts management functions.

Accessed By

Service, admin accounts.

Description

The `tts` option displays various options for managing your Text-to-Speech resources on the MRS, such as loading, viewing, assigning, unassigning, or removing an exception dictionary.

Example

This example displays the Text-to-Speech menu options.

```
/sci/files>  tts
lh           - Perform Lernout & Hauspie(L&H) tts management
functions.
centigram    - Perform Centigram tts management functions.
done         - Return to the previous menu.
```

lh

/sci/files/tts

Action

Accesses a submenu.

Function

Perform Lernout & Hauspie (L&H) tts management functions.

Accessed By

Service, admin accounts.

Description

The `lh` option performs Lernout & Hauspie (L&H) Text-to-Speech management functions.

Example

```
/sci/files/tts> lh
load         - Load exception dictionaries from a UNIX-TAR disk.
dosload      - Load exception dictionaries from a DOS disk.
list         - List exception dictionaries installed.
view         - View an exception dictionary.
assign       - Assign an exception dictionary to a TTS board.
unassign     - Unassign an exception dictionary from a TTS board.
remove       - Remove an exception dictionary.
editdef      - Edit a TTS default parameters file.
done         - Return to the previous menu.
```

Each of these options are described on the pages that follow.

centigram

/sci/files/tts

Action

Accesses a submenu.

Function

Performs Centigram tts management functions.

Accessed By

Service, admin accounts.

Description

The `centigram` option performs Centigram Text-to-Speech management functions.

Example

```
/sci/files/tts>  centigram
load          - Load exception dictionaries from a UNIX-TAR disk.
dosload       - Load exception dictionaries from a DOS disk.
view          - View an exception dictionary.
remove        - Remove an exception dictionary.
editdef       - Edit a TTS default parameters file.
done          - Return to the previous menu.
```

Each of these options is described on the pages that follow.

load

/sci/files/tts/lh or /sci/files/tts/centigram

Action

Executes a function.

Function

Load exception dictionaries from a UNIX tar disk.

Accessed By

Service, admin accounts.

Description

The `load` option loads exception dictionaries on the MRS from a UNIX tar disk. An alternative is to use the `dosload` option to load from a DOS-formatted disk.

dosload

/sci/files/tts/lh or /sci/files/tts/centigram

Action

Executes a function.

Function

Load exception dictionaries from a DOS disk.

Accessed By

Service, admin accounts.

Description

The `dosload` option loads exception dictionaries on the MRS from a DOS-formatted disk. An alternative is to use the `load` option to load from a UNIX tar disk.

list

/sci/files/tts/lh

Action

Executes a function.

Function

List the installed exception dictionaries.

Accessed By

Service, admin accounts.

Description

The `list` option displays the currently installed exception dictionaries for Text-to-Speech. Also listed are those dictionaries that have already been assigned to tts resources.

Note: This option is not available for Centigram TTS.

Example

```
/sci/files/tts/lh>  list
Installed Dictionaries:
ant_tts.dat

Assigned Dictionaries:
TTS Board #1 assigned dictionary: ant_tts.dat
```

view

/sci/files/tts/lh or /sci/files/tts/centigram

Action

Executes a function.

Function

View an exception dictionary.

Accessed By

Service, admin accounts.

Description

The `view` option displays the contents of a TTS exception dictionary. Although this appears rather cryptic, you can see which aliases are used. Refer to the *Symposium OPEN IVR 4.0 Text-to-Speech Option Guide* for further information.

Example

```
/sci/files/tts/lh>  view
Enter the dictionary to view:  ant_tts.dat
 000010000600012000073
0000200001000010000 6
000160003100043000010005400066
mkakdlkmkmnwy
mark kayserman*keith angelini*keith davis*larry king*mike
newell*wei yip*
```

assign

/sci/files/tts/lh

Action

Executes a function.

Function

Assign an exception dictionary to a TTS board.

Accessed By

Service, admin accounts.

Description

The `assign` option assigns an installed exception dictionary to a TTS module installed in the MRS. Until the dictionary is assigned, it is not available to TTS resources.

Note: This option is not available for Centigram TTS.

Example

```
/sci/files/tts/lh>  assign
Default TTS board number to assign to = 1
        TTS board number to assign to =
Enter the file to assign:
```

unassign

/sci/files/tts/lh

Action

Executes a function.

Function

Unassign an exception dictionary from a TTS board.

Accessed By

Service, admin accounts.

Description

The `unassign` option unassigns an exception dictionary from a specific TTS module. This option does not remove the dictionary from the MRS.

Note: This option is not available for Centigram TTS.

remove

/sci/files/tts/lh or /sci/files/tts/centigram

Action

Executes a function.

Function

Remove an exception dictionary.

Accessed By

Service, admin accounts.

Description

The `remove` option deletes the specified exception dictionary from the MRS. This is different from the `unassign` option, which simply makes the dictionary temporarily unavailable.

editdef

/sci/files/tts/lh or /sci/files/tts/centigram

Action

Executes a function.

Function

Edit a TTS default parameters file.

Accessed By

Service, admin accounts.

Description

The `editdef` option modifies the file containing TTS parameter defaults for a specific TTS module. This option varies according to the technology.

Example

The following includes an example for L&H-based TTS and Centigram-based TTS.

```
/sci/files/tts>  editdef
Default TTS board number to edit = 1
        TTS board number to edit =  1
WARNING - A parameter file already exists
for the TTS board you selected
Are you sure you wish to continue?
Current continue?  = no
yes        - Continue with operation.
no         - Return to previous menu.
        continue?  = y
Enter volume level from 1 to 9 [8]:
Enter pitch level from 1 to 9 [5]:
Enter speech rate from 1 to 9 [5]:
Enter speaker type from 1 to 9 [1]:
Enter read mode from 0 to 3 [2]:
Enter wait period from 0 to 9 [0]:


/sci/files/tts/centigram>  editdef
Enter volume level from 0 to 15 [10]:
Enter pitch level from 50 to 200 [85]:
Enter speech rate from 50 to 250 [150]:
Enter speaker type from 0 to 2 [0]:
```

agent_id

/sci/files

Action

Executes a function.

Function

Modify the ACD Agent ID file.

Accessed By

Service, admin accounts.

Description

The `agent_id` option edits the agent ID file. This file is used by the system when ACD agent IDs must be nonsequential or when they must be more than four digits long.

Whenever four-digit, sequential agent IDs can be used, the agent ID is determined by the sum of the base agent ID specified by the `acdgroup` parameter in the trunk type file and the channel number. For example, if the `acdgroup` parameter is set to 0x1000, the agent ID for the ACD agent associated with channel 0x27 would be 0x1027 (for example, 1000 + 27).

When sequential ACD agent IDs are not available, or when the ID must consist of more than four digits, you can specify the agent IDs in the agents file. In this case, you must set the `acdgroup` parameter in the trunk type file to 0xFFF.

The `agents` file contains information that is relevant to ACD agents, such as the agent ID code, password, and SPIDs. This file can be accessed using the `agent_id` option described here.

When you select this option, the SCI invokes the `vi` editor and opens the `agents` file. The `agents` file lists the channels to be used and the assigned agent IDs in decimal format.

To add an agent ID, enter the two-digit hexadecimal channel number (without the preceding “0x”), white space (tab or space), and then the agent ID (up to eight digits) to be associated with the channel.

For further information about using ACD agents, refer to Appendix C in this manual.

See also

`acd (/sci/status/map)`

Example

This example shows the agent IDs assigned to channels 0–4.

```
/sci/files>  agent_id
00 10000000
01 10000010
02 10000020
03 10000030
04 10000040
```

`ì/usr/vrs/parms/agentsî`

restore

/sci/files

Action

Executes a function.

Function

Restore data files from a floppy.

Accessed By

Service, admin, user accounts.

Description

The `restore` option restores files from a backup floppy disk. The backup floppy should be previously created with the `backup` option (`/sci/files/vsn` or `/sci/files/fax` menu).

See also

`prepare` (`/sci/files` menu), `backup` (`/sci/files/vsn` or `/sci/files/fax` menu)

Example

```
/sci/files>  restore
Restoring Data Files from Backup Floppy Please Insert the First
Disk and Strike any Key to Continue (or q to quit)

x /vrs/vsn/fax/defaults/def01, 354 bytes, 1K
x /vrs/vsn/fax/form01/256logo, 7564 bytes, 8K
x /vrs/vsn/fax/form01/svlogo, 12002 bytes, 12K
x /vrs/vsn/fax/form01/vlogo, 38150 bytes, 38K
x /vrs/vsn/fax/form01/sign0001.fax, 2774 bytes, 3K
x /vrs/vsn/fax/form01/ps, 46184 bytes, 46K
x /tmp/tar.last_file, 0 bytes, 0K
Done Reading Files
```

prepare

/sci/files

Action

Executes a function.

Function

Prepare a floppy disk for data file backup.

Accessed By

Service, admin, user accounts.

Description

The `prepare` option formats a floppy disk for use in backing up a VSN volume or a fax set. Only 3.5 inch, high-density floppy disks should be used.

See also

`restore` (`/sci/files` menu), `backup` (`/sci/files/vsn` or `/sci/files/fax` menu)

Example

This example illustrates how the `prepare` option formats and validates the disk.

```
/sci/files>  prepare
******************************************************
WARNING - You are about to format the floppy
disk in the MRS floppy drive.
******************************************************
Are you sure you wish to continue? y
Insert floppy in drive; press <RETURN> when ready
formatting /dev/rdsk/f0q18d ...
  track 79  head 1
done
verifying /dev/rdsk/f0q18d ...
  track 79
done
```

Status menu (/sci/status)

```
/sci>  status
system       - Display the system status.
proc         - Display the system process status.
map          - Display the current audio state of all trunks.
chan         - Display the system channel map.
audit        - Display the audit trail for a specified channel.
calls        - Display call completion statistics.
log          - Display the system event log.
alarmlog     - Display the alarm log.
perform      - Gather system performance data.
done         - Return to the previous menu.
```

This menu of system status options is displayed when you select the `status` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

system

/sci/status

Action

Executes a function.

Function

Display the system status.

Accessed By

Service, admin, user accounts.

Description

The `system` option displays the current status of the overall system resources, including memory usage, active volumes, file system usage, and active network connections.

This option lists memory usage, showing the total capacity and the amount that is used, swapped, and available. The Active Mount Table lists the virtual volumes that are installed, the associated access privileges, and the time and date at which they were mounted.

The `system` option also lists file system usage statistics. The capacity of each volume is identified, along with the space that is used and currently available.

The "Active Network Connections" section of the display lists the current connection between the MRS and the AP. If the AP is connected to the MRS via the serial communications link (RS-232-C), only the local address is listed, showing the port identifier. If the connection is over a local area network, the local address identifies the MRS node name. The foreign address identifies the host name or IP address of the application server on the network, and the state identifies the current state of the connection (for example, established). Multiple connections are possible, however, only one application server can control channels on the MRS.

Selecting the `done` option returns control to the `/sci` menu environment.

Example

```
/sci/status>  system

System Memory Usage
    Capacity 16000KB   Used 20264KB   Swapped 4392KB   Free 128KB

Active Mount Table
    /dev/vsnA read/write on Sat Dec 17 12:44:28 1994
    /dev/vsnB read/write on Sat Dec 17 12:44:29 1994
    /dev/vsnC read/write on Sat Dec 17 12:44:29 1994
    /dev/vsnD read/write on Sat Dec 17 12:44:29 1994

File System Usage Statistics
    VOLUME 1 - Capacity =   69.0MB    Used =   14.0MB    Free =
55.0MB
    VOLUME 2 - Capacity =   69.0MB    Used =    1.0MB    Free =
68.0MB
    VOLUME 3 - Capacity =   69.0MB    Used =    1.0MB    Free =
68.0MB
    VOLUME 4 - Capacity =   69.0MB    Used =    1.0MB    Free =
68.0MB

Active Network Connections
    Local Address          Foreign Address        (state)
    /dev/tty2a             N/A                    ESTABLISHED
```

proc

/sci/status

Action

Executes a function.

Function

Display the system process status.

Accessed By

Service, admin, user accounts.

Description

The `proc` option displays the status of all processes running on the MRS. This option is useful for verifying that all required processes are running.

Example

The following example shows which processes are currently running on the MRS, and their status.

```
/sci/status>  proc
[01/15 06:01]               System Running
[01/15 06:01]                  log      Running
[01/15 06:01]               trapGen     Running
[01/15 06:01]                  ssb      Running
[01/15 06:01]     /usr/vrs/exe/hwm      Running
[01/15 06:01]     /usr/vrs/exe/dcm      Running
[01/15 06:01]     /usr/vrs/exe/com      Running
[01/15 06:01]     /usr/vrs/exe/uvm      Running
[01/15 06:01]     /usr/vrs/exe/bas      Running
[01/15 06:01]    /usr/vrs/exe/rmgr      Running
[01/15 06:01]    /usr/vrs/exe/atts      Running
[01/15 06:01]     /usr/vrs/exe/psm      Running
```

map

/sci/status

Action

Displays a submenu.

Function

Display the current audio state of all trunks.

Accessed By

Service, admin, user accounts.

Description

The `map` option displays a list of options for displaying in real time the current physical state of each channel (for example, IDLE, BUSY, CALL, DIAL, RECD, PLAY, WINK, TEST, HANG, RING), as well as its state in the ACD queue (logged on or off). With this tool, you can only see the current state of a channel if the state of the channel has changed since the time you started the map tool.

> ***Note:*** The channel map tool will not work without an Ethernet or Token Ring network card installed in the system. Also, displaying `acd` status will not work correctly unless you are using the trunk files distributed with OPEN IVR 2.0 or greater. Changes have been made to the trunk files in OPEN IVR 2.0 or greater to enable them to correctly display the state of the channel when it is configured as an `acd` trunk.

Example

```
/sci/status>  map
states       - Display the current audio state of all trunks.
acd          - Display the current ACD state of all trunks.
combined     - Display all current state information of all
trunks.
cancel       - Return to the previous menu.
```

states

/sci/status/map

Action

Executes a function.

Function

Display the current audio state of all trunks.

Accessed By

Service, admin, user accounts.

Description

The `states` option displays the audio states of all MRS trunks. This display does not change until a state change occurs. Displayed states include: IDLE, BUSY, CALL, DIAL, RECD, PLAY, WINK, TEST, HANG, RING.

With this tool, you can see only the current state of a channel if the state of the channel has changed since the time you started the map tool. <Blank space> indicates that the channel is not present.???? indicates that the channel status has not changed since the map tool was started.

The channel map tool will not work without an Ethernet or Token Ring network card installed in the system. To exit the display, press <ESC>.

Example

```
/sci/status/map> state

                    Telephony Server Platform
                    Channel Status Interface

      0      1      2      3      4      5      6      7      8      9
  0 idle   busy   play   recd   call   dial   test   hang   ????   dial
 10 busy   busy   busy   play   call   dial   test   recd   test   busy
 20 play   idle   dial   dial   busy   dial   hang   busy   ????   hang
 30 dial   busy   test   hang   dial   ????   play   ????   ????   ????
 40 call   call   dial   idle   busy   dial   dial   test   play   idle
 50 ????   play   call   call   call   call   recd   call   test   idle
 60 test   test   play   ????   call   idle   dial   hang   ????   hang
 70 hang   recd   busy   play   ????   dial   ????   ????   ????   dial
 80 play   idle   call   ????   recd   dial   ????   ????   idle   idle
 90 call   call   call   call   call   call   call   call   call   call
100 ????   play   play   call   call   idle   test   recd   ????   play
110 dial   test   call   play   dial   dial   recd   ????   ????   dial
```

acd

/sci/status/map

Action

Executes a function.

Function

Display the current ACD state of all trunks.

Accessed By

Service, admin, user accounts.

Description

The `acd` option displays the ACD state of all MRS trunks. The display changes only when the state of the channel changes to `logon` or `logoff`. To exit the display, press <ESC>.

> ***Note:*** This option requires a network module. Also, displaying `acd` status will not work correctly unless you are using the trunk type files distributed with OPEN IVR 2.5 or greater. Changes have been made to the trunk files in OPEN IVR 2.5 or greater to enable them to correctly display the state of the channel when it is configured as an `acd` trunk.

Example

```
/sci/status/map> acd
        Telephony Server Platform
        Channel Status Interface
     0      1       2      3      4       5      6      7      8       9

 0   LOGON   LOGON  LOGOFF LOGOFF LOGOFF  LOGON  LOGON  LOGOFF LOGOFF LOGOFF
10   LOGON   LOGON  LOGOFF LOGOFF LOGOFF  LOGON  LOGOFF LOGOFF LOGOFF LOGOFF
20   LOGON   LOGOFF LOGOFF LOGOFF LOGOFF  LOGOFF LOGOFF LOGOFF LOGOFF LOGOFF
30   LOGON   LOGON  LOGOFF LOGOFF LOGOFF  LOGON  LOGON  LOGOFF LOGOFF LOGOFF
40
50
60
70
80
90
100
110
```

combined

/sci/status/map

Action

Executes a function.

Function

Display the current state information of all trunks.

Accessed By

Service, admin, user accounts.

Description

The `combined` option displays the physical state of all MRS trunks and the status of ACD channels. This display does not change until a state change occurs. Displayed audio states include: IDLE, BUSY, CALL, DIAL, RECD, PLAY, WINK, TEST, HANG, RING. ACD status is displayed as 0 or 1 for logged off or logged on, respectively.

With this tool, you can see only the current state of a channel if the state of the channel has changed since the time you started the map tool. <Blank space> indicates that the channel is not present.???? indicates that the channel status has not changed since the map tool was started.

The channel map tool will not work without an Ethernet or Token Ring network card installed in the system. To exit the display, press <ESC>.

Example

```
/sci/status/map> combined


                          Telephony Server Platform
                           Channel Status Interface

      0      1      2      3      4      5      6      7      8      9

 0   idle   busy   play   recd   call   dial   test   hang   ????   dial
10   busy   busy   busy   play   call   dial   test   recd   test   busy
20   play   idle   dial   dial   busy   dial   hang   busy   ????   hang
30   1      0      1      0      play   ????   play   ????   ????   ????
40   call   call   dial   idle   busy   dial   dial   test   play   idle
50   0      1      0      1      call   call   recd   call   test   idle
60   test   test   play   ????   call   idle   dial   hang   ????   hang
```

```
70   hang   recd   busy   play   ????   dial   ????   ????   ????   dial
80   play   idle   call   ????   recd   dial   ????   ????   idle   idle
90   call   call   call   call   call   call   call   call   call   call
100  ????   play   play   call   call   idle   test   recd   ????   play
110  dial   test   call   play   dial   dial   recd   ????   ????   dial
```

chan

/sci/status

Action

Executes a function.

Function

Display the system channel map.

Accessed By

Service, admin, user accounts.

Description

The chan option displays the system channel map. The system channel map identifies each of the configured channels, and the corresponding characteristics.

Example

This example illustrates that there are 12 channels in the system: channels 0–11. Trunk interfaces corresponding to channels 12–63 are not installed. Channel 0 is a loopstart trunk with MF detection on PEB 0.

```
/sci/status>  chan
Channel Map for the System:
00] LOOP MF 0   01] LOOP  MF 0  02] LOOP  MF 0  03] LOOP  MF 0
04] LOOP MF 0   05] LOOP  MF 0  06] LOOP  MF 0  07] LOOP  MF 0
08] LOOP MF 0   09] LOOP  MF 0  10] LOOP  MF 0  11] LOOP  MF 0
12] óó          13] óó          14] óó          15] óó
16] óó          17] óó          18] óó          19] óó
20] óó          21] óó          22] óó          23] óó
24] óó          25] óó          26] óó          27] óó
28] óó          29] óó          30] óó          31] óó
32] óó          33] óó          34] óó          35] óó
36] óó          37] óó          38] óó          39] óó
40] óó          41] óó          42] óó          43] óó
44] óó          45] óó          46] óó          47] óó
48] óó          49] óó          50] óó          51] óó
52] óó          53] óó          54] óó          55] óó
56] óó          57] óó          58] óó          59] óó
60] óó          61] óó          62] óó          63] óó
```

audit

/sci/status

Action

Executes a function.

Function

Display the audit trail for a specified channel.

Accessed By

Service account.

Description

The `audit` option displays the activity log for a specific channel. The SCI prompts you for the channel to be audited, and then lists all transactions occurring on the selected channel, sorted by time.

Example

This example displays the first screen of the audit trail for channel 0.

```
/sci/status>  audit
Default Channel to audit = 0
                     Channel to audit =  0
42] 15:15:35 : SM=A STATE=PLAYDCM RSP=2806 STAT=0
43] 15:15:40 : SM=A STATE=CONFIRMDCM RSP=2807 STAT=0
44] 15:15:40 : SM=E STATE=OFFHOOKHOST C/R=0061 STAT=0
45] 15:15:47 : SM=A STATE=AUDIO_IDLEDCM RSP=280E STAT=0
46] 15:15:47 : SM=E STATE=OFFHOOKHOST C/R=0061 STAT=0
47] 15:15:47 : SM=A STATE=PLAYHOST C/R=0081 STAT=0
48] 15:15:47 : SM=E STATE=OFFHOOKHOST C/R=0061 STAT=0
49] 15:15:47 : SM=A STATE=PLAYDCM RSP=2806 STAT=0
50] 15:15:48 : SM=E STATE=OFFHOOKDCM RSP=2802 STAT=0
51] 15:15:48 : SM=E STATE=OFFHOOKHOST C/R=0061 STAT=0
52] 15:15:49 : SM=E STATE=ONHOOK_WAITDCM RSP=2801 STAT=0
53] 15:15:49 : SM=E STATE=ONHOOK_WAITHOST C/R=0061 STAT=0
54] 15:15:49 : SM=A STATE=ABORTHOST C/R=0006 STAT=0
55] 15:15:49 : SM=A STATE=AUDIO_IDLEDCM RSP=2807 STAT=0
56] 15:15:49 : SM=E STATE=IDLE_CLEANUPHOST C/R=0073 STAT=0
57] 15:15:49 : SM=A STATE=AUDIO_IDLEPSM CMD=1405 STAT=0
58] 15:15:49 : SM=E STATE=EVENT_IDLEPSM RSP=1C00 STAT=0
59] 15:39:44 : SM=E STATE=BUSYHOST C/R=0075 STAT=0
60] 10:38:31 : SM=E STATE=EVENT_IDLEPSM CMD=1401 STAT=0
61] 10:38:31 : SM=E STATE=BUSYHOST C/R=0075 STAT=0
```

calls

/sci/status

Action

Access a submenu.

Function

Display call completion statistics.

Accessed By

Service, admin, user accounts.

Description

The `calls` option displays a submenu of options for listing statistics about calls to the MRS. Call statistics are gathered to record

- the number of calls that have arrived and the number of calls that were answered by the system, to calculate the abandoned call rate
- the number of outdialing attempts that occurred and the number of outbound calls that successfully connected.

Call statistics are collected 24 hours a day and can be displayed in a daily or hourly format, or as a bar graph. Statistics are retained for one week; consequently, each day new statistics overwrite the statistics for the same day of the previous week.

Example

```
/sci/status> calls
graph   - Display statistics as a bar graph.
daily   - Display statistics as set of tables for a day.
hourly  - Display statistics for a specific day and hour.
clear   - Clear all call statistics.
done    - Return to the previous menu.
```

graph

/sci/status/calls

Action

Executes a function.

Function

Display statistics as a bar graph.

Accessed By

Service, admin, user accounts.

Description

The `graph` option displays completed call statistics by the hour (on the 24-hour basis) in graphical format. When you select this option, you are prompted for the day during the past week for which you want statistics displayed. A bar graph depicting a view of the day's hourly statistical totals is displayed.

The numbers at the bottom of the bar graph indicate a 24-hour period (from midnight to midnight), and the numbers on the left axis divide the total number of calls into increments of 25 percent.

Each coordinate is represented by two dots, the left designating incoming calls and the right designating outgoing calls. The following letters represent the status of the calls:

d	Detected
A	Accepted
p	Placed
S	Successful

If a number of calls were placed with only a fraction of them successfully completed, the representation would consist of a vertical line of S's (representing the successfully completed calls), topped off with a vertical line of p's to indicate the number of unsuccessfully placed calls.

Similarly, if a number of calls were detected with only a fraction of them accepted, the representation would consist of a vertical line of A's (representing the accepted calls), topped off with a vertical line of d's to indicate the number of detected but not accepted calls.

Example

The following example shows graphically the call statistics for the entire past week.

```
/sci/status/calls>  graph
sunday      - Display statistics for Sunday.
monday      - Display statistics for Monday.
tuesday     - Display statistics for Tuesday.
wednesday   - Display statistics for Wednesday.
thursday    - Display statistics for Thursday.
friday      - Display statistics for Friday.
saturday    - Display statistics for Saturday.
totals      - Display statistics for the whole week.
done        - Return to the previous menu.
/sci/status/calls/graph>  totals


                        Call Statistics Graph by Hour
     Incoming: d=Detected A=Accepted - Outgoing: p=Placed S=Successful
800  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
600  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
400  .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..
200  .. .. .. .. .. .. .. .. .. .. .. .. A. .. A. .. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. A. .. A. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. A. .. A. .. .. .. .. .. .. .. ..
       .. .. .. .. .. .. .. .. .. .. .. .. A. .. A. A. .. .. .. .. .. .. ..
=============================================================
       00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
```

daily

/sci/status/calls

Action

Executes a function.

Function

Display statistics as a set of tables for a day.

Accessed By

Service, admin, user accounts.

Description

The `daily` option displays call statistics compiled during a 24-hour period (that is, midnight to midnight).

When you select this option, a list of days is shown, Sunday through Saturday. Type the day of the (previous) week for the statistics you wish displayed. For example, if today is Tuesday, selecting `Tuesday` will display call statistics recorded since midnight today. Selecting `Monday` would display yesterday's statistics, whereas `Wednesday` would display statistics for the previous Wednesday. The SCI displays a chart presenting the trunk number and the number of corresponding calls detected and accepted (with the percentages these represent) for incoming calls, and the number of corresponding calls attempted and successfully completed (with the percentages these represent) for outgoing calls. These statistics are displayed by the hour as well as the total for the day you specified.

If the entire listing does not fit on your screen, the **:** character will appear at the bottom of your screen, and the remaining information will display when you depress the <Enter> key.

The totals for the entire 24-hour period appear at the end of the report.

Example

The following is an example of the first hour of the chart created when you select the `daily` option for a particular day.

```
/sci/status/calls/daily>  tuesday
Tuesday - September 27, 1994 - 12 AM
   INCOMING---   OUTGOING---   INCOMING---      OUTGOING--
```

TRK	DET	ACC	[%]	ATT	SUC	[%]	TRK	DET	ACC	[%]	ATT	SUC	[%]
0	-	-	-	38	38	100%	1	-	-	-	38	38	100%
2	-	-	-	38	38	100%	3	-	-	-	38	38	100%
4	-	-	-	38	38	100%	5	-	-	-	38	38	100%
6	-	-	-	38	38	100%	7	-	-	-	38	38	100%
8	-	-	-	38	38	100%	9	-	-	-	38	38	100%
10	-	-	-	38	38	100%	11	-	-	-	38	38	100%
12	-	-	-	38	38	100%	13	-	-	-	38	38	100%
14	-	-	-	38	38	100%	15	-	-	-	38	38	100%
16	-	-	-	38	38	100%	17	-	-	-	38	38	100%
18	-	-	-	38	38	100%	19	-	-	-	38	38	100%
20	-	-	-	38	38	100%	21	-	-	-	38	38	100%
22	-	-	-	38	38	100%	23	-	-	-	38	38	100%
24	38	38	100%	-	-	-	25	38	38	100%	-	-	-
26	38	38	100%	-	-	-	27	38	38	100%	-	-	-
28	38	38	100%	-	-	-	29	38	38	100%	-	-	-
30	38	38	100%	-	-	-	31	38	38	100%	-	-	-
32	38	38	100%	-	-	-	33	38	38	100%	-	-	-
34	38	38	100%	-	-	-	35	38	38	100%	-	-	-
36	38	38	100%	-	-	-	37	38	38	100%	-	-	-
38	38	38	100%	-	-	-	39	38	38	100%	-	-	-
40	38	38	100%	-	-	-	41	38	38	100%	-	-	-
42	38	38	100%	-	-	-	43	38	38	100%	-	-	-
44	38	38	100%	-	-	-	45	38	38	100%	-	-	-
46	38	38	100%	-	-	-	47	38	38	100%	-	-	-

hourly

/sci/status/calls

Action

Executes a function.

Function

Display statistics for a specific day and hour.

Accessed By

Service, admin, user accounts.

Description

The `hourly` option displays call statistics for a specific hour during the previous week. You are prompted for the day to view.

```
Select a day to view.
Current day = sunday
sunday    - Statistics for Sunday.
monday    - Statistics for Monday.
tuesday   - Statistics for Tuesday.
wednesday - Statistics for Wednesday.
thursday  - Statistics for Thursday.
friday    - Statistics for Friday.
saturday  - Statistics for Saturday.
        day =
Type the day for which you want statistics.  The next prompt
will read:
Default Select an hour to view. = 0
Select an hour to view. =
Type the starting time (on a 12-hour clock) for which you want
statistics.  The next prompt will read:
Select AM or PM.
Current time = am
am           - AM
pm           - PM
       time =
```

Type the time period you want. The SCI displays a chart presenting the trunk number, the number of corresponding calls detected and accepted (with the percentages these represent) for incoming calls, and the number of corresponding calls attempted and successfully completed (with the corresponding percentages) for outgoing calls.

Example

The following example displays the call statistics for Monday at 6 p.m.

```
/sci/status/calls> hourly
Select a day to view.
Current day = sunday
sunday    - Statistics for Sunday.
monday    - Statistics for Monday.
tuesday   - Statistics for Tuesday.
wednesday - Statistics for Wednesday.
thursday  - Statistics for Thursday.
friday    - Statistics for Friday.
saturday  - Statistics for Saturday.
        day = monday
Default Select an hour to view. = 0
Select an hour to view. =  6
Select AM or PM.
Current time = am
am           - AM
pm           - PM
       time = pm

Monday - September 26, 1994 - 06 PM
  INCOMING---   OUTGOING---   INCOMING---      OUTGOING--
TRK  DET  ACC  [%]  ATT  SUC   [%]  TRK  DET  ACC  [%]  ATT  SUC   [%]
  0   -    -    -    38   38  100%     1   -    -    -     38   38  100%
  2   -    -    -    38   38  100%     3   -    -    -     38   38  100%
  4   -    -    -    38   38  100%     5   -    -    -     38   38  100%
  6   -    -    -    38   38  100%     7   -    -    -     38   38  100%
  8   -    -    -    38   38  100%     9   -    -    -     38   38  100%
 10   -    -    -    38   38  100%    11   -    -    -     38   38  100%
 12   -    -    -    38   38  100%    13   -    -    -     38   38  100%
 14   -    -    -    38   38  100%    15   -    -    -     38   38  100%
 16   -    -    -    38   38  100%    17   -    -    -     38   38  100%
 18   -    -    -    38   38  100%    19   -    -    -     38   38  100%
 20   -    -    -    38   38  100%    21   -    -    -     38   38  100%
 22   -    -    -    38   38  100%    23   -    -    -     38   38  100%
 24   38   38  100%   -    -    -     25   38   38  100%   -    -    -
 26   38   38  100%   -    -    -     27   38   38  100%   -    -    -
 28   38   38  100%   -    -    -     29   38   38  100%   -    -    -
 30   38   38  100%   -    -    -     31   38   38  100%   -    -    -
 32   38   38  100%   -    -    -     33   38   38  100%   -    -    -
 34   38   38  100%   -    -    -     35   38   38  100%   -    -    -
 36   38   38  100%   -    -    -     37   38   38  100%   -    -    -
 38   38   38  100%   -    -    -     39   38   38  100%   -    -    -
 40   38   38  100%   -    -    -     41   38   38  100%   -    -    -
 42   38   38  100%   -    -    -     43   38   38  100%   -    -    -
 44   38   38  100%   -    -    -     45   38   38  100%   -    -    -
 46   38   38  100%   -    -    -     47   38   38  100%   -    -    -
```

Again, if the entire listing does not fit on your screen, the **:** character will appear at the bottom of your screen, and the remaining information will display when you depress the <Enter> key.

clear

/sci/status/calls

Action

Executes a function.

Function

Clear all call statistics.

Accessed By

Service, admin, user accounts.

Description

The `clear` option deletes statistics about previously completed calls.

log

/sci/status

Action

Executes a function.

Function

Display the system event log.

Accessed By

Service, admin, user accounts.

Description

The `log` option displays the system event log sorted by time, starting with the oldest events. The event log is the repository of the system event and status messages and contains up to 300 of the most recent events at any time. You can also select `log` from the `/sci` menu. All standard `pg` options are valid while viewing the event log.

Example

```
/sci/status>  log
12/13 14:35 HWM:         ADVISORY 3101 Process Shutdown
12/13 14:35 DCM1:       ADVISORY 2301 Process Shutdown
12/13 14:35 DCM4:       ADVISORY 2301 Process Shutdown
12/13 14:35 DCM7:       ADVISORY 2301 Process Shutdown
12/13 14:35 DCM10:     ADVISORY 2301 Process Shutdown
12/13 14:35 BFC1:        ADVISORY 2801 Process Shutdown
12/13 14:35 BFC2:        ADVISORY 2801 Process Shutdown
12/13 14:35 BFC3:        ADVISORY 2801 Process Shutdown
12/13 14:35 BFC4:        ADVISORY 2801 Process Shutdown
12/13 14:35 COM:         ADVISORY 2201 Process Shutdown
12/13 14:35 CONV:       ADVISORY 3001 Process Shutdown
12/13 14:35 UVM:          ADVISORY 2401 Process Shutdown
12/13 14:35 BAS:          ADVISORY 2901 Process Shutdown
12/13 14:35 VCS1:       ADVISORY 3201 Process Shutdown
12/13 14:35 VCS2:       ADVISORY 3201 Process Shutdown
12/13 14:35 PSM:         ADVISORY 2101 Process Shutdown
12/13 14:35 SYS:         ADVISORY 9001 System Stopped
12/13 14:59 SYS:         ADVISORY 9000 System Started
12/13 15:00 HWM:        ADVISORY 3100 Process Startup
12/13 15:00 COM:         ADVISORY 2200 Process Startup
12/13 15:00 VCS1:       ADVISORY 3200 Process Startup
12/13 15:00 UVM:         ADVISORY 2400 Process Startup
```

perform

/sci/status

Action

Displays a submenu.

Function

Gather system performance data.

Accessed By

Service, admin accounts.

Description

The `perform` option displays a list of options for gathering system performance data, including CPU, I/O, and IPC message performance data.

Example

```
/sci/status>  perform
cpu           - Gather CPU performance data.
io            - Gather block I/O performance data.
msg           - Gather IPC message performance data.
done          - Return to the previous menu.
```

cpu

/sci/status/perform

Action

Executes a function.

Function

Gather CPU performance data.

Accessed By

Service, admin accounts.

Description

The cpu option generates and displays CPU utilization statistics for the MRS. Data includes the percentage of time that the processor is in system mode (%sys), in user mode (%usr), waiting for input/output completion (%wio), and CPU idle time (%idle).

Example

```
/sci/status/perform>  cpu

vk00000 vk00000 3.2v4.2 i386    06/14/95

13:24:19    %usr    %sys    %wio   %idle
13:24:22       0       1       0      99
13:24:25       0       0       0     100
13:24:28       0       0       0     100
13:24:31       0       0       0     100
13:24:34       0       0       0     100
13:24:37       0       0       0     100
13:24:41       0       0       0     100
13:24:44       0       1       0      99
13:24:47       0       1       1      98
13:24:50       0       1       0      99

Average        0       1       0      99
```

io

/sci/status/perform

Action

Executes a function.

Function

Gather block I/O performance data.

Accessed By

Service, admin accounts.

Description

The `io` option generates and displays statistics on MRS buffer activity. The data included is listed below.

Data	Description
bread/s	Average number of physical block (512 bytes) reads from disk per second
lread/s	Average number of logical reads from system buffers per second
%rcache	Fraction of logical reads found in the system buffers (100% minus ratio of bread/s to lread/s)
bwrit/s	Average number of physical writes from the system buffers to disk per second
lwrit/s	Average number of logical writes to system buffers per second
%wcache	Fraction of logical writes found in system buffers (100% minus ratio of bwrit/s to lwrit/s)
pread/s	Average number of physical read requests per second
pwrit/s	Average number of physical write requests per second

Example:

```
/sci/status/perform>  io

vk00000 vk00000 3.2 2 i386    06/14/95

13:29:06 bread/s lread/s %rcache bwrit/s lwrit/s %wcache pread/s
pwrit/s
13:29:09       0       2     100       0       2     100       0       0
13:29:12       0       1     100       0       2     100       0       0
13:29:15       0       1     100       0       1     100       0       0
13:29:18       0       1     100       0       1     100       0       0
13:29:21       0       1     100       0       1     100       0       0
13:29:24       0       1     100       2       3      33       0       0
13:29:27       0       1     100       0       1     100       0       0
13:29:30       0       1     100       0       1     100       0       0
13:29:33       0       1     100       0       1     100       0       0
13:29:36       0      12     100       1      11      94       0       0

Average        0       2     100       0       2      89       0       0
```

msg

/sci/status/perform

Action

Executes a function.

Function

Gather IPC message performance data.

Accessed By

Service, admin accounts.

Description

The `msg` option generates and displays statistics about interprocess communication activity on the MRS. Data includes the number of message (msg/s) and semaphore calls (sema/s) per second.

Example

```
/sci/status/perform>  msg

vk00000 vk00000 3.2 2 i386    06/14/95

13:30:08   msg/s  sema/s
13:30:11    4.29    0.00
13:30:14    3.97    0.00
13:30:17    4.30    0.00
13:30:20    4.30    0.00
13:30:23    2.98    0.00
13:30:26    4.30    0.00
13:30:29    4.30    0.00
13:30:32    4.30    0.00
13:30:35    2.98    0.00
13:30:38    4.32    0.00

Average     4.01    0.00
```

alarmlog

/sci/status

Action

Executes a function.

Function

Display the alarm log.

Accessed By

Service, admin, user accounts.

Description

The `alarmlog` option displays the contents of the alarm log. The log lists all alarm events that have occurred and is organized by alarm category. Each alarm category identifies a process that generated the alarm events. The events in each category are sorted by time, starting with the oldest event.

See also

`log` (`/sci` or `/sci/status` menu)

Example

This example lists an alarm log. The recorded events were generated by processes associated with alarm categories 23 and 21.

```
/sci/status>  alarmlog
Alarm Report
--Category 23 Alarm Conditions---
03/02 13:30 SETOpen Board #4 errno = 0
03/02 13:30 SETOpen Board #5 errno = 0
03/02 13:30 SETOpen Board #1 errno = 0
03/02 13:30 SETOpen Board #2 errno = 0
03/02 13:30 SETOpen Board #3 errno = 0
--Category 21 Alarm Conditions---
03/02 13:31 SETPower Source Temperature Warning
End of Alarm Report
```

Installation menu (/sci/install)

```
/sci>  install
************************************************************
WARNING - Executing this option will cause the system to be
stopped.  Once the Install Menu is entered the only
 way to restart operations will be to reboot the MRS.
************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes   Continue with operation.
no-   Return to previous menu.
continue?  = yes
Stopping the System Now!
load          - Loads a new license file from floppy.
rev          - Display the revision levels of all packages.
package      - Install an option package update from floppy.
link         - Link the UNIX kernel.
country      - Configure country specific parameters.
setup        - Display & modify the current hardware setup.
display      - Display all packages installed in the system
remove       - Remove an option package from the system
verify       - Verify all installed option packages.
check        - Check the integrity of an install package
                 diskette.
restore      - Restore data files from a floppy.
lhttslang    - Install Lang. disks for L&H TTS.
extracttar   - Extract a tar archive from disk.
restart      - Restart the system.
/sci/install>
```

This menu of installation options is displayed when you select the `install` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

load

/sci/install

Action

Executes a function.

Function

Loads a new license file from floppy.

Accessed By

Service, admin accounts.

Description

This option is used to load a new license file from floppy diskette.

Example

```
/sci/install>  load

You are about to overwrite the system license file!!
Do you wish to continue (y/n) [y] y

Insert a floppy that contains a valid license file for this
system and hit ENTER to continue, or q to quit:
```

rev

/sci/install

Action

Executes a function.

Function

Display the revision levels of all packages.

Accessed By

Service, admin accounts.

Description

The `rev` option displays the current revision levels of all of the software installed on the MRS.

If you enter the `rev` option after installing a software option package, the revision level will not reflect the updated software until the system reboots when you exit the `/sci/install` menu.

To check the revision levels during normal system operation, select the `rev` option from the `/sci/admin/catalog` menu.

See also

`rev` (`/sci/admin/catalog` menu), `display` (`/sci/install` or `/sci/admin/catalog` menu)

Example

```
/sci/install>  rev
MRS     US Country Parameters  Revision 4.00
MRS     Base Package  Revision 4.00
MRS     Fax Option  Revision 4.00
MRS     Speech Recognition Option  Revision 4.00
MRS     MRS/Tower System Configuration  Revision 4.00
UNIX       Revision 3.2 Version 4.2
DIALOGIC Firmware /usr/dialogic/data/d12x.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d4xd.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d8x.fwl Revision 2.40
```

package

/sci/install

Action

Executes a function.

Function

Install a software package.

Accessed By

Service, admin accounts.

Description

The `package` option installs software from CD-ROM, hard disk, or floppy disk. To install software from hard disk or floppy disk, the procedure must be performed on the same system. Remote installs can be performed from a CD-ROM located on a remote system.

Example

This example starts an install from CD-ROM.

```
/sci/install>  package

Select Media Device:
------------------------------------------------------------

1.  CD-ROM

2.  Hard Disk            (local installs only)

3.  Floppy Disk 0        (local installs only)


Please enter your selection or q to quit []: 1


Specify which host machine installing FROM and TO:
-------------------------------------------------

 1.  FROM   localhost   TO   localhost

2.  FROM  remote host  TO   localhost
```

```
3.  FROM   localhost   TO  remote host

 Please enter your selection or q to quit []: 1

 INSTALLING FROM localhost TO localhost

Enter “c” to continue, “r” to redo, or “q” to quit: c

Insert installation CD into CD-ROM drive at host => localhost
Type q to quit or hit ENTER to continue:
```

link

sci/install

Action

Executes a function.

Function

Link the UNIX kernel.

Accessed By

Service, admin accounts.

Description

The `link` option rebuilds the UNIX kernel. To activate the new kernel, you must reboot the MRS.

See also

`restart` (`/sci/install` menu)

Example

```
/sci/install>  link
        The UNIX Operating System will now be rebuilt.
        This will take a few minutes.  Please wait.
        Root for this system build is /.
        The UNIX Kernel has been rebuilt.
Do you want this kernel to boot by default? (y/n)
Please answer y or n
Do you want this kernel to boot by default? (y/n) y
Backing up /unix to /unix.old
Installing new /unix
The kernel environment includes device node files and
/etc/inittab.
The new kernel may require changes to /etc/inittab or device
nodes.
Do you want the kernel environment rebuilt? (y/n) y
The kernel has been successfully linked and installed.
        To activate it, reboot your system.
Setting up new kernel environment
```

country

/sci/install

Action

Executes a function.

Function

Configure country specific parameters.

Accessed By

Service, admin accounts.

Description

The `country` option modifies the country parameters to be used by your system. The currently configured country value is identified and you are prompted on whether or not to change this value. If you wish to change the country parameters, the SCI displays a list of available countries. The available options include the following

- Belgium (analog)
- China (digital E1, analog)
- Denmark
- Hong Kong (analog, digital T1)
- Italy (analog)
- Mexico (analog, digital E1)
- Netherlands (analog)
- Norway (analog)
- Switzerland (analog)
- United Kingdom (analog)
- United States (analog, digital T1)

See also

`/sci/maint/params` menu

Example

The following example changes the country setting from United States parameters to Mexico.

```
/sci/install>  country


The system is presently configured using United States country
parameters

Do you wish to change the country parameters? [y/n]: y

Are you using an ACL E1 network card? [y/n]: n

 1.  Australia        14. Luxembourg
 2.  Austria          15. Mexico
 3.  Belgium          16. Morocco
 4.  China            17. Netherlands
 5.  Denmark          18. New Zealand
 6.  Finland          19. Norway
 7.  Germany          20. Portugal
 8.  Hong Kong        21. South Africa
 9.  Hungary          22. Spain
10.  Italy            23. Sweden
11.  Israel           24. Switzerland
12.  Japan            25. United Kingdom
13.  Korea            26. United States

Enter the number of the country where
this system is to be installed. ? 15

This system will be configured using Mexico country parameters

Do you wish to continue the installation [y/n]:y
Installing files...

The Mexico Country Parameters
have now been installed.
```

setup

sci/install

Action

Displays a submenu.

Function

Display and modify the current hardware setup.

Accessed By

Service account.

Description

The `setup` option displays a submenu of options for activating or deactivating system modules. It is the same as the `setup` option available from the `/sci` menu. This option is accessible only to the service account. For further information, refer to the description of the `/sci/setup` menu.

See also

`setup` (`/sci` menu)

display

sci/install

Action

Executes a function.

Function

Display all packages installed in the system.

Accessed By

Service, admin accounts.

Description

The `display` option displays the available option packages installed on the MRS. This option is the same as the `display` option on the `/sci/admin/catalog`, and is useful for verifying that a package is already installed on the system.

See also

`rev` (`/sci/install` or `/sci/admin/catalog` menu), `display` (`/sci/admin/catalog` menu)

Example

```
/sci/install>  display
Dialogic Generic Voice Development Platform
Dialogic Springboard-D4xD Firmware Support
Dialogic DTI/xxx UNIX Development Package
MRS Base Package
MRS Fax Option
MRS US Country Parameters
MRS Nortel System Panel Driver
MRS Speech Recognition Option
MRS MRS/Tower System Configuration
```

remove

/sci/install

Action

Executes a function.

Function

Remove an option package from the system.

Accessed By

Service, admin accounts.

Description

The `remove` option deletes an option package from the MRS. When you select the `remove` option, the SCI displays the option packages currently installed on the MRS, and prompts you to identify the option package to be removed.

```
Select a number (1 - 10) from this list to remove:
```

Enter the number identifying the package to be removed followed by <Enter>. The SCI prompts you to verify your intentions.

```
Strike ENTER when ready or ESC to stop:
```

Press <Enter> to delete the selected package or **q** to quit without performing the remove operation. Upon completion, the SCI returns control to the `/sci/install` menu.

> ***Note:*** The package is not actually removed until the next time the kernel is relinked.

Example

This example removes the Fax option from the MRS.

```
/sci/install>  remove
    1   Dialogic Generic Voice Development Platform
    2   Dialogic Springboard-D4xD Firmware Support
    3   Dialogic DTI/xxx UNIX Development Package
    4   MRS  Base Package
    5   MRS  Fax Option
    6   MRS  US Country Parameters
    7   MRS  Nortel System Panel Driver
```

```
    8   MRS  Speech Recognition Option
    9   MRS  MRS/Tower System Configuration
Select a number (1 - 9) from this list to remove:5
Type q to quit or hit ENTER to continue:
```

verify

/sci/install

Action

Executes a function.

Function

Verify all installed option packages.

Accessed By

Service, admin accounts.

Description

The `verify` option verifies that all of the files associated with an option package are loaded on the MRS. The SCI displays all of the files that are loaded and identifies any files that could not be found. This option is also accessible from the `/sci/admin/catalog` menu.

See also

`display` (`/sci/install` or `/sci/admin/catalog` menu)

Example

```
/sci/install>  verify
Verifying installed package integrity ------------------
Verifying MRS Base Package
Verifying MRS Fax Option
Verifying MRS US Country Parameters
Verifying MRS Nortel System Panel Driver
Verifying MRS Speech Recognition Option
Verifying MRS MRS/Tower System Configuration
Checking Cross Package Requirements
All installed packages have been verified --------------
```

check

/sci/install

Action

Executes a function.

Function

Check the integrity of an install package disk.

Accessed By

Service, admin accounts.

Description

The `check` option allows you to verify that a floppy disk is readable. This option is particularly useful for checking floppy disks included in a software installation package to ensure they do not contain errors as a result of shipping.

The `check` option can also be used to verify that a floppy disk has been properly formatted with the `prepare` option prior to starting a backup procedure, or that it already contains files backed up with the `backup` option.

See also

`/sci/admin/catalog/check`

Example

The first example checks the integrity of a disk previously formatted for backup with the `prepare` option and perhaps containing backed-up files. The second example identifies an error in reading the disk.

```
/sci/install> check
Insert the floppy to check - type q to quit or hit ENTER to
continue
Nortel Data File Backup/Restore Format

/sci/install> check
Insert the floppy to check - type q to quit or hit ENTER to
continue
ERROR Reading Input Media:
The disk may not be in install package format.
Media errors may have occurred during shipment.
Contact Nortel customer service to arrange for
replacement media to be issued.
```

restore

/sci/install

Action

Executes a function.

Function

Restore data files from a floppy.

Accessed By

Service, admin accounts.

Description

The `restore` option restores files from a backup floppy disk. The SCI prompts you to insert the floppy in the MRS's floppy disk drive. Press <Enter> to continue or **q** to quit without doing the restore. This option is also accessible from the `/sci/files` menu.

The backup floppy should have been created with the `backup` option (`/sci/files/vsn` or `/sci/files/fax` menu).

See also

`prepare` (`/sci/files` menu), `backup` (`/sci/files/vsn` or `/sci/files/fax` menu)

Example

```
/sci/install>  restore
Restoring Data Files from Backup Floppy
Please Insert the First Disk and Strike any Key to Continue (or
q to quit)
x /vrs/vsn/fax/defaults/def01, 354 bytes, 1K
x /vrs/vsn/fax/form01/256logo, 7564 bytes, 8K
x /vrs/vsn/fax/form01/svlogo, 12002 bytes, 12K
x /vrs/vsn/fax/form01/vlogo, 38150 bytes, 38K
x /vrs/vsn/fax/form01/sign0001.fax, 2774 bytes, 3K
x /vrs/vsn/fax/form01/ps, 46184 bytes, 46K
x /tmp/tar.last_file, 0 bytes, 0K
Done Reading Files
```

lhttslang

/sci/install

Action

Executes a function.

Function

Install language disks for L&H TTS.

Accessed By

Service, admin accounts.

Description

The `lhttslang` option installs language disks for L&H Text-to-Speech.

extracttar

/sci/install

Action

Executes a function.

Function

Extract a tar archive from disk.

Accessed By

Service, admin accounts.

Description

The `extracttar` option extracts a tar archive from disk.

restart

/sci/install

Action

Executes a function.

Function

Restart the system.

Accessed By

Service, admin accounts.

Description

The `restart` option reboots the MRS (that is, restarts the UNIX operating system). After installing software in the `/sci/install` menu environment, you must reboot the system. This can be accomplished using the `restart` option. The SCI gracefully shuts down the system and then starts the automatic boot procedure. This process takes approximately five minutes.

> ***Note:*** When you select the `restart` option, the SCI automatically executes the check utility to verify cross-package requirements. If any discrepancies exist, the SCI prompts you on whether to restart or remain at the installation menu so that you can fix the discrepancies.

See also

`reset` (`/sci` menu), `restart` (`/sci/maint` menu)

Example

```
/sci/install>  restart
Verifying installed package integrity ------------------
Verifying MRS Base Package
Verifying MRS Fax Option
Verifying MRS US Country Parameters
Verifying MRS Nortel System Panel Driver
Verifying MRS Speech Recognition Option
Verifying MRS MRS/Tower System Configuration
Checking Cross Package Requirementsóóóóóóóóóóóóó
The MRS Speech Recognition Option must be revision 4.00 or
higher
All installed packages have been verified --------------
Errors were encountered in the current install.
Are you sure you wish to continue?
```

```
Current continue? = yes
yes - Continue with operation.
no  - Return to previous menu
 continue? = no
```

Diagnostics menu (/sci/diag)

```
/sci> diag
chan          - Single channel diagnostics test.
verbose       - Dynamically place processes in verbose mode.
dual          - Dual channel diagnostics test.
calltest      - Control the internal callin test.
ping          - Ethernet connection diagnostics test.
t1diag        - Perform T-1 diagnostic functions.
e1diag        - Perform E-1 diagnostic functions.
acd           - Control the ACD state of a channel.
view          - View results from current diagnostics tests.
last          - View results from last diagnostics tests.
done          - Return to the previous menu.
/sci/diag>
```

This menu of diagnostics options is displayed when you select the `diag` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

chan

sci/diag

Action

Executes a function.

Function

Single-channel diagnostics test.

Accessed By

Service, admin accounts.

Description

The `chan` option allows you to run a basic test on a single loopstart channel. Selecting this option disables the specified channel until the test is completed.

The `chan` option tests the accessibility of the trunk interface module on which the channel is located and the network integrity between the trunk card and the external telephone network. For a more thorough test of system functionality, refer to the `calltest` option (`/sci/diag` menu).

The results of the test are displayed on-screen and also logged in the test log. The test log contains the results of all tests that have been run during the current testing session (since the `diagnostics` menu was entered).

When you select this option, the SCI prompts you to identify the channel to be tested. The MRS detaches the selected channel from the AP and starts the test. Once the test has been completed, the MRS releases the channel for access by applications running on the application server.

See also

`calltest` (`/sci/diag` menu), `dual` (`/sci/diag` menu), `t1diag` (`/sci/diag` menu)

Example

```
/sci/diag>  chan
************************************************************
WARNING - The trunks which are to be tested MUST be inactive.
     Otherwise errors may result in host processing.
************************************************************
Are you sure you wish to continue?Current continue?  = no
```

```
yes - Continue with operation.
no - Return to previous menu.
   continue?  = yes
Default Channel number to test = 0
   Channel number to test =
Beginning testing on channel #0x0
START - Hookswitch Test
PASS  - Hookswitch Test
```

verbose

/sci/diag

Action

Executes a function.

Function

Dynamically place processes in verbose mode.

Accessed By

Service account.

Description

The `verbose` option can be useful for reviewing the detailed internal characteristics of various processes. When you select this option, the SCI prompts you to identify the process to be placed in verbose mode, and whether the output should be sent to the standard output (that is, screen) or to a file. A process can be placed in verbose mode on the fly without stopping the system.

You should be aware that verbose mode will affect system performance. Piping output to standard output can slow down normal operation. On the other hand, if you redirect output to a file, you must monitor and control the size of the file to prevent filling up the disk. To remove the verbose file, you must stop the verbose mode for that process, remove the file, and then restart the verbose mode. However, all this can be done without stopping any processes or interrupting normal system activity.

To the untrained user, the information provided by a process running in verbose mode will appear rather cryptic. However, for trained service personnel, this tool may be essential for troubleshooting the system.

Example

This example turns on verbose mode for the dcm1 process and pipes the output to the standard output.

```
/sci/diag>  verbose
bas   bfc2  bfc4  bfc6  bfc8  conv  hwm   psm   uvm
bfc1  bfc3  bfc5  bfc7  com   dcm1  log   sys

Enter the desired process name : dcm1
```

```
Turn verbose on or off (1=on / 0=off) : 1
Enter the verbose output file name,
hit <enter> to output to stdout :
[dcm1:proc:getevent] calling user client close
[dcm1:proc:getevent] client closed
```

dual

/sci/diag

Action

Executes a function.

Function

Dual-channel diagnostics test.

Accessed By

Service, admin accounts.

Description

The `dual` option allows you to run a basic test on two loopstart channels that verifies the trunk interface module's ability to establish a path through the external telephone network.

When you select this option, the SCI prompts you for the channels to be tested and the telephone number that will be used to connect both channels. The SCI detaches the specified channels from application server control and runs the test. Once the path has been established, the test verifies the integrity of the path by sending DTMF digits through the network, comparing the received signal to the transmitted signal. Upon completion of the test, the MRS releases the channels and returns control to the application server.

See also

`calltest` (`/sci/diag` menu), `chan` (`/sci/diag` menu), `t1diag` (`/sci/diag` menu)

Example

This example tests the path from channel 0 to channel 1 using phone number 555-5555 to connect the two channels.

```
/sci/diag>  dual
************************************************************
WARNING - The trunks which are to be tested MUST be inactive.
      Otherwise errors may result in host processing.
************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes  - Continue with operation.
```

```
no   - Return to previous menu.
    continue?  = yes
Default Originating Channel number to test = 0
    Originating Channel number to test = 0
Default Terminating Channel number to test = 1
    Terminating Channel number to test = 1
Enter the phone number to use when calling from the first
channel to the
    second channel: 5555555
Beginning testing on channels #0x0 and #0x1 using phone number
#5555555
START   - Connection Test
PASS    - Connection Test
Start   - DTMF Test
PASS    - DTMF Test
Test Completed
```

calltest

/sci/diag

Action

Access submenu.

Function

Control the internal call-in test.

Accessed By

Service account.

The `calltest` option displays a submenu of options for running an embedded call-in application that verifies functionality of a single channel or a range of channels. This diagnostics test is particularly useful for service personnel during system installation or site maintenance to verify basic functionality of selected channels, such as DTMF detection, record and play, and outdial and hangup.

Example

```
/sci/diag>  calltest
start  - Start the internal call in test.
reload  - Reload internal call in test prompts.
stop  - Stop the internal call in test.
done  - Return to the previous menu.
```

Before starting the call-in test, select the `reload` option to reload test prompts into the VSN area. The test prompts occupy a reserved range of the VSN numbers that is inaccessible to the AP.

To begin the test, select the `start` option. The SCI prompts you to identify the range of channels to be tested. These specified channels are detached from the application server until you select the `stop` option to exit the call-in test.

Initially, the application is in an idle state. Call in to the system on one of the selected channels. The MRS will play a message indicating that the system is temporarily out of service.

Once the message has been played, you have up to 30 seconds to enter the security code (provided to qualified maintenance and service personnel) using the telephone keypad. Upon successful access, the MRS plays the various test options you can access.

1 DTMF test

Tests for DTMF detection. The application prompts you to enter a digit on your telephone keypad. As you press a key, the application plays a corresponding prompt. Press # to return to the main menu.

2 Play test

Tests the play function. The application prompts you to enter an existing message number followed by #, and then plays the corresponding message. Press # to return to the main menu.

3 Record test

Tests the record function. The application prompts you to enter an un-used VSN number to identify the message you wish to record, followed by #. The test then prompts you to record the message. To repeat the message, press any key. Press # to return to the main menu.

4 Outdial test

Tests an outdial feature. The application prompts you to enter the number you wish to call, followed by #. When you hang up, the application calls the number. Once you answer the call, press any key to return to the main menu.

5 Exit

Hangs up the line and returns to an idle state.

To exit the embedded call-in test application at any time, select the `stop` option from the `/sci/diag/calltest` menu. The channels that have been allocated to the call-in test are then gracefully returned to application software control.

See also

`chan` (`/sci/diag` menu), `t1diag` (`/sci/diag` menu)

Example

This example starts the embedded call-in test on channels 0 through 11. Once started, you can call one of the channels, enter the security code to play the test menu, and select any of the test options. Once you are done testing, you can exit the test menu and then select the `stop` option from the `/sci/diag/calltest` menu.

```
/sci/diag>  calltest
start   - Start the internal call in test.
reload  - Reload internal call in test prompts.
stop    - Stop the internal call in test.
done    - Return to the previous menu.
/sci/diag/calltest>  start
************************************************************
WARNING - The trunks which are to be tested MUST be inactive.
      Otherwise errors may result in host processing.
************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes  - Continue with operation.
no   - Return to previous menu.
    continue?  = yes
Default Start of Channel Range to test = 0
    Start of Channel Range to test =
Default End of Channel Range to test = 47
    End of Channel Range to test =  11
Default Channels to test: (All, Even, Odd) = all
Channels Allocated Successfully
Test Application Started
```

ping

/sci/diag

Action

Executes a function.

Function

Ethernet connection diagnostics test.

Accessed By

Service, admin accounts.

Description

The `ping` option tests the integrity of the local area network to which the MRS is attached.

> ***Note:*** The `ping` option is intended for use in network testing, measurement, and management. It should be used primarily for manual fault isolation. Because of the load it could impose on the network, it is unwise to use ping during normal operations.

Tracking a single-point hardware or software failure can often be difficult. The `ping` option displays the results of sending network echo-back packets (that is, 10 packets, 10 bytes per packet) to the specified application server in the format of the `ping` (ADMN) UNIX utility.

The `ping` option utilizes the ICMP protocol's mandatory ECHO_REQUEST datagram to elicit an ICMP ECHO_RESPONSE from an application server on the local area network. The datagram length is 10 bytes. The ping test sends one datagram per second, and prints one line of output for every ECHO_RESPONSE returned. No output is produced if there is no response. Round-trip times and packet loss statistics are computed. When all responses have been received or the program times out, the test displays a brief summary.

When you select the `ping` option, the SCI prompts you for the host ID of the machine connected to the network. Enter either the node name or the Internet address (a number nn.nn.nn.nn where nn = 0 - 255).

For fault isolation, you should first run the test with localhost as the host ID to verify that the Ethernet interface module is up and running. Then, you should run the ping test on network drops further and further away until the application server is reached.

Example

This example pings the application server named `ap0001`.

```
/sci/diag>  ping
Enter the Host Id of the machine to Ping::  ap0001
PING ap0001: 64 data bytes

72 bytes from 128.1.1.111: icmp_seq=0. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=1. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=2. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=3. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=4. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=5. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=6. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=7. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=8. time=0. ms
72 bytes from 128.1.1.111: icmp_seq=9. time=0. ms
óóap0001 PING Statisticsóó
10 packets transmitted, 10 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 0/0/0
```

t1diag

/sci/diag

Action

Access submenu.

Function

Perform T-1 diagnostics functions.

Accessed By

Service, admin accounts.

Description

The `t1diag` option accesses a submenu of options for testing an installed T1 trunk interface.

Note: T1 is referenced also as "T-1."

You can use the `loopback` option to place a T1 span in loopback mode for connecting network test equipment to the T1 line and running diagnostics, or the `alarm` option to assert T1 alarms for switch debugging.

Selecting the `done` option returns control to the `/sci/diag` menu.

See also

`calltest` (`/sci/diag` menu), `chan` (`/sci/diag` menu)

Example

This example illustrates the menu options for T1 diagnostics. From this menu you can place the T1 span in loopback mode or assert T1 alarms.

```
/sci/diag>  t1diag
loopback- Control T-1 span loopback mode.
alarm- Control Alarms on a T-1 span.
done- Return to the previous menu.
```

loopback

/sci/diag/t1diag

Action

Access submenu.

Function

Control T-1 span loopback mode.

Accessed By

Service, admin accounts.

Description

The `loopback` option accesses a submenu for setting loopback mode on or off for a specific T1 span. Loopback mode enables network administrators to perform single-ended fault location on the T-1 line. While in the loopback mode, the received signal is being looped back to the transmit pair. The loopback includes signal regeneration, but does not remove bipolar violations.

When you select the `on` option, the SCI prompts you to verify that you want to continue with this procedure, and then prompts you to identify the T1 span to be manipulated. While the `loopback` option is on, both the T1 red alarm and the system alarm are on. To turn off loopback mode, select the `off` option.

Selecting the `done` option returns control to the `/sci/diag/t1diag` menu.

See also

`alarm` (`/sci/diag/t1span` menu)

Example

This example turns loopback mode on for T1 span 1.

```
/sci/diag/t1diag>  loopback
on    - Put T-1 spans in loopback mode.
off   - Take T-1 spans out of loopback mode.
done  - Cancel this operation.)
/sci/diag/t1diag/loopback>  on
************************************************************
WARNING - The trunks which are to be tested MUST be inactive.
  Otherwise errors may result in host processing.
```

```
*****************************************************************
Are you sure you wish to continue?
Current continue? = no
yes  - Continue with operation.
no   - Return to previous menu.
  continue? = yes
Default T-1 Span to Loopback to Network = 1
  T-1 Span to Loopback to Network = 1
loopback mode on
```

alarm

/sci/diag/t1diag

Action

Access submenu.

Function

Control alarms on a T-1 span.

Accessed By

Service, admin accounts.

Description

The `alarm` option accesses a submenu of options for asserting and clearing Yellow and/or Blue alarms on a T1 line.

A Yellow alarm is defined as a remotely detected failure. In a Blue alarm mode, the system generates an all 1's pattern. To assert or clear Yellow and Blue alarms on a T-1 line, select the `on` or `off` option from this submenu.

Select the `done` option to return to the `/sci/diag/t1diag` menu.

See also

`loopback` (`/sci/diag/t1span` menu)

Example

This example turns on the Yellow alarm on the T1 interface for T1 span 1.

```
/sci/diag/t1diag>  alarm
on         - Assert an Alarm on a T-1 span.
off        - Clear an Alarm on a T-1 span.
done       - Cancel this operation.
/sci/diag/t1diag/alarm>  on
Default T-1 Span to Assert Alarm On = 1
  T1 Span to Assert Alarm On =
Current alarm type = yellow
yellow   - Yellow Alarm.
blue     - Blue Alarm.
  alarm type =
Alarm Turned On
```

e1diag

/sci/diag

Action

Access submenu.

Function

Perform E-1 diagnostics functions.

Accessed By

Service, admin accounts.

Description

The `e1diag` option accesses a submenu of options for testing an installed E1 trunk interface.

Note: E1 is referenced as “E1” or “E-1.”

You can use the `loopback` option to place an E1 span in loopback mode for connecting network test equipment to the E1 line and running diagnostics, or the `alarm` option to assert E1 alarms for switch debugging.

Selecting the `done` option returns control to the `/sci/diag` menu.

See also

`calltest` (`/sci/diag` menu), `chan` (`/sci/diag` menu)

Example

```
/sci/diag>  e1diag
loopback- Control E-1 span loopback mode.
alarm   - Control Alarms on a E-1 span.
done    - Return to the previous menu.
```

loopback

/sci/diag/e1diag

Action

Access submenu.

Function

Control E-1 span loopback mode.

Accessed By

Service, admin accounts.

Description

The `loopback` option accesses a submenu for setting loopback mode on or off for a specific E1 span. Loopback mode enables network administrators to perform single-ended fault location on the E-1 line. While in the loopback mode, the received signal is being looped back to the transmit pair. The loopback includes signal regeneration, but does not remove bipolar violations.

When you select the `on` option, the SCI prompts you to verify that you want to continue with this procedure, and then prompts you to identify the E1 span to be manipulated. While the `loopback` option is on, both the E1 red alarm and the system alarm are on. To turn off loopback mode, select the `off` option.

Selecting the `done` option returns control to the `/sci/diag/e1diag` menu.

See also

`alarm` (`/sci/diag/e1span` menu)

Example

This example turns loopback mode on for E1 span 1.

```
/sci/diag/e1diag>  loopback
on   - Put E-1 spans in loopback mode.
off  - Take E-1 spans out of loopback mode.
done - Cancel this operation.)
/sci/diag/e1diag/loopback>  on
************************************************************
WARNING - The trunks which are to be tested MUST be inactive.
  Otherwise errors may result in host processing.
```

```
*****************************************************************
Are you sure you wish to continue?
Current continue? = no
yes  - Continue with operation.
no   - Return to previous menu.
  continue? = yes
Default E-1 Span to Loopback to Network = 1
  E-1 Span to Loopback to Network = 1
loopback mode on
```

alarm

/sci/diag/e1diag

Action

Access submenu.

Function

Control alarms on an E-1 span.

Accessed By

Service, admin accounts.

Description

The `alarm` option accesses a submenu of options for asserting and clearing Yellow and/or Blue alarms on an E1 line.

A Yellow alarm is defined as a remotely detected failure. In a Blue alarm mode the system generates an all 1's pattern. To assert or clear Yellow and Blue alarms on an E-1 line, select the `on` or `off` option from this submenu.

Select the `done` option to return to the `/sci/diag/e1diag` menu.

See also

`loopback` (`/sci/diag/e1span` menu)

Example

This example turns on the Yellow alarm on the E1 interface for E1 span 1.

```
/sci/diag/e1diag>  alarm
on       - Assert an Alarm on a E-1 span.
off      - Clear an Alarm on a E-1 span.
done     - Cancel this operation.
/sci/diag/e1diag/alarm>  on
Default E-1 Span to Assert Alarm On = 1
  E1 Span to Assert Alarm On =
Current alarm type = yellow
yellow  - Yellow Alarm.
blue    - Blue Alarm.
  alarm type =
Alarm Turned On
```

acd

/sci/diag

Action

Execute a function.

Function

Control the ACD state of a channel.

Accessed By

Service, admin accounts.

Description

The `acd` option allows you to change the current state of an ACD channel to logon or logoff.

> ***Note:*** This option requires that your MRS have an ACD trunk type file compatible with Release 4.0 MRS software.

Example

This example changes the logon/logoff state of ACD channel 1 to logoff.

```
/sci/diag>  acd
Default Channel to Logon/Logoff = 1
        Channel to Logon/Logoff =  1
Enter the new state for this channel
Current new state?  = off
on           - The channel is logged on.
off          - The channel is logged off.
        new state?  = on
ACD State Change Initiated
```

view

/sci/diag

Action

Executes a function.

Function

View results from current diagnostics tests.

Accessed By

Service, admin accounts.

Description

The `view` option displays the Current Diagnostics Tests log. This log contains test results from the current `/sci/diag` menu session.

The SCI has two logs associated with running diagnostics: the Current Diagnostics Tests log and the Last Diagnostics Tests log. When you enter the `/sci/diag` menu environment, the SCI captures test results from any diagnostics that are run during this menu session in the Current Diagnostics Tests log. You can view the current test results while in the `/sci/diag` menu environment by using the `view` option. When you exit the `/sci/diag` menu, the contents of the Current Diagnostics Tests log are copied to the Last Diagnostics Tests log, and then the Current Diagnostics Tests log is cleared. All standard UNIX `pg` options are valid while viewing this log.

See also

`last` (`/sci/diag` menu)

Example

```
/sci/diag>  view
START - Hookswitch Test
ERROR - Hookswitch test error on channel dxxxB1C4
+ Error Reason was: No loop current detected on channel
FAIL  - Hookswitch Test
START - Hookswitch Test
PASS  - Hookswitch Test
START - Call In Test Started <0 - B>
DONE  - Call In Test Completed
```

last

/sci/diag

Action

Executes a function.

Function

View results from last diagnostics tests.

Accessed By

Service, admin accounts.

Description

The last option displays the Last Diagnostics Tests log. This log contains test results from the previous `/sci/diag` menu session.

The SCI has two logs associated with running diagnostics: the Current Diagnostics Tests log and the Last Diagnostics Tests log. When you enter the `/sci/diag` menu environment, the SCI captures test results from any diagnostics that are run during this menu session in the Current Diagnostics Tests log. The Last Diagnostics Tests log remains unchanged, and you can view its contents by selecting the `last` option.

When you exit the `/sci/diag` menu, the contents of the Current Diagnostics Tests log are copied to the Last Diagnostics Tests log. The Current Diagnostics Tests log is cleared. All standard UNIX `pg` options are valid while viewing this log.

See also

`view` (`/sci/diag` menu)

Example

```
/sci/diag>  last
START - Hookswitch Test
ERROR - Hookswitch test error on channel dxxxB1C4
+ Error Reason was: No loop current detected on channel
FAIL  - Hookswitch Test
START - Hookswitch Test
PASS  - Hookswitch Test
START - Call In Test Started <0 - B>
DONE  - Call In Test Completed
```

Administration menu (/sci/admin)

```
/sci>  admin
pass          - Change accounts password.
who           - List users logged into the system.
time          - Set the system date and time.
hosts         - Perform host management functions.
network       - Perform network configuration functions.
catalog       - Display option package information.
license       - License Menu.
done          - Return to the previous menu.
/sci/admin>
```

This menu of system administration options is displayed when you select the `admin` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

pass

/sci/admin

Action

Executes a function.

Function

Change accounts password.

Accessed By

Service, admin, user accounts.

Description

The `pass` option changes the password for the current SCI account or any account with fewer access privileges.

If you are logged in to the SCI with the service account, you can change the password of service, admin, and user accounts. The admin account can change the password of admin and user accounts, whereas the user account can change the password of the user account only.

CAUTION

Risk Of data loss

If you intend to change a password, be sure that no other user is currently logged in to the SCI. Selecting the `pass` option temporarily locks the password facility. Also, installing software updates may reset the account passwords to the defaults. Refer to the accompanying *Symposium OPEN IVR 4.0 Product Guide* for information on account password defaults.

Example

The following example changes the password for the user account, which has the least access privileges.

```
/sci/admin>  pass
************************************************************
```

```
WARNING - Executing this option temporarily locks the passwd
facility.  No other users should attempt to log in during this
procedure.
*************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes - Continue with operation.
no - Return to previous menu.
  continue?  = yes
Select the account to change password?
Current Account?  = service
service- Service Personnel Account.
admin- Site Administrator Account.
user- General Access Account
                Account?  = user
Setting password for user: user
Last successful password change for user: Thu Feb 20 09:13:20
1992
Last unsuccessful password change for user: NEVER

   Choose password

You can choose whether you pick your own password, or have the
system create one for you.

  1. Pick your own password
  2. Pronounceable password will be generated for you
Enter choice (default is 1):
Please enter new password
New password:
Re-enter password:
```

who

/sci/admin

Action

Executes a function.

Function

List users logged in to the system.

Accessed By

Service, admin, user accounts.

Description

The `who` option lists the users who are currently logged in to the SCI. The SCI lists the current logins by account, port, and time the user logged in.

> ***Note:*** The `who` option does not indicate whether the AP is currently running applications on the MRS.

Example

This example shows that one user logged in to the SCI as the service account on port ttyp00 at 10:03 on November 18.

```
/sci/admin>  who
service     ttyp00    Nov 18  10:03
```

time

/sci/admin

Action

Executes a function.

Function

Set the system date and time.

Accessed By

Service, admin accounts.

Description

The `time` option modifies the current system date and time. The SCI displays the current date and time, and then prompts you for the new date and time. Enter the date and time in military format as displayed on the screen: `[yymmdd]hhmm`

You can enter a new time without entering the date. However, if you enter the date, you must also enter the time.

Example

This example changes the date and time from November 18, 1992, 11:46 a.m., to February 1, 1993, 1:30 p.m.

```
/sci/admin>  time
Current System Time is Wed Nov 18 11:46:00 EST 1992
Enter new time ([yymmdd]hhmm): 9302011330
```

hosts

/sci/admin

Action

Access submenu.

Function

Perform host management functions.

Accessed By

Service, admin, user accounts.

Description

The `hosts` option accesses a submenu of options for maintaining information in the hosts file about different application servers to which you may want to connect the MRS.

An application server can communicate with the MRS directly using the RS-232-C communications or over an Ethernet local area network. The MRS must be identified in Symposium OPEN IVR system configuration parameters; information about the application server must be stored in the MRS's hosts file. The application server initiates communications when Symposium OPEN IVR is started.

Using the options on this submenu, you can add, modify, or delete application servers from the hosts file. You can also list the contents of the hosts file, change information about the account on the application server, and display information about the MRS's network configuration.

See also

`network` (`/sci/admin` menu)

Example

```
/sci/admin>  hosts
add  - Add or Change an entry in the Hosts File.
del  - Delete an entry from the Hosts File.
account  - Set Application Processor Account Information.
list  - Display the Hosts File.
inet  - Display Internet Configuration.
```

add

/sci/admin/hosts

Action

Executes a function.

Function

Add or Change an entry in the Hosts File.

Accessed By

Service, admin accounts.

Description

The `add` option adds information to the hosts file about an application server that may try to establish communications with the MRS. When you enter the `add` option, the SCI prompts you for the name and Ethernet address of the application server to be added. You can also use this option to modify an existing entry in the file.

See also:

`del` (`/sci/admin/hosts` menu), `list` (`/sci/admin/hosts` menu)

Example:

This example adds an application server to the hosts file named publisher at address 128.1.15.

```
/sci/admin/hosts>  add

Would you like to add a name to the hosts file(y/n) [n]: y
Please enter the name of the host to be added []: publisher
Please enter the ethernet address of the host to be added []:
128.1.1.15

Host -> publisher <- with address -> 128.1.1.15 <- is to be
added.

Is this correct? (y/n) [n]: y
```

del

/sci/admin/hosts

Action

Executes a function.

Function

Delete an entry from the hostsfile

Accessed By

Service, admin accounts.

Description

The `del` option removes an application server from the hostsfile, indicating that communications can no longer be established with that application server.

When you select the `del` option, the SCI prompts you to verify that you want to delete an entry from the hosts file, and then prompts you to identify the application server. Type the name of the application server as it is listed in the hosts file.

See also

`add` (`/sci/admin/hosts` menu), `list` (`/sci/admin/hosts` menu)

Example

This example removes the entry for publisher from the hosts file.

```
/sci/admin/hosts>  del

Would you like to delete a name from the hosts file(y/n) [n]: y
Please enter the name of the host to be deleted []: publisher

Host -> publisher <- is to be deleted.

Is this correct? (y/n) [n]: y
```

account

/sci/admin/hosts

Action

Executes a function.

Function

Set AP account information.

Accessed By

Service, admin accounts.

Description

The `account` option changes the name of the account with which the MRS expects to communicate on the AP. The account name should be the same as the account that starts the Symposium OPEN IVR software on the AP.

Example

```
/sci/admin/hosts>  account

Would you like to change Host Account Information?(y/n) [n]: y
Please enter login name for the Host Account []: Nortel
Login name of the Host account is ->Nortel <-.Is this
correct?(y/n) [n]:y
Setup is complete!
```

list

/sci/admin/hosts

Action

Executes a function.

Function

Display the hostsfile.

Accessed By

Service, admin, user accounts.

Description

The `list` option displays the hostsfile, which contains the name and Internet address of each AP that may initiate communications with the MRS.

See also

`add` (`/sci/admin/hosts` menu), `del` (`/sci/admin/hosts` menu)

Example

This example lists a hosts file containing entries for several application servers.

```
/sci/admin/hosts>  list
127.0.0.1    localhost
128.1.1.68   aklsco
128.1.1.62   lousco
128.1.1.69   scodevil
128.1.1.101  riscy
128.1.1.111  NTL00143 NTL00143.nt.com
```

inet

/sci/admin/hosts

Action

Executes a function.

Function

Display Internet configuration.

Accessed By

Service, admin, user accounts.

Description

The `inet` option displays the network configuration of the MRS. This option is also accessible from the `/sci/admin/network` menu.

Each MRS is shipped with a unique node name. If you are connecting your MRS to a network, you may have to change the address so that it is compatible with the network. The node name and address can be changed by using the `name` and `addr` options on the `/sci/admin/network` menu.

See also

`inet` (`/sci/admin/network` menu), `name` (`/sci/admin/network` menu), `addr` (`/sci/admin/network` menu)

Example

This example lists the network configuration for the MRS named MRS00143.

```
/sci/admin/hosts>  inet
System node name  - nortel
CPU Type  - Pentium
SCO Release Number  - 3.2v5.0.4
SCO serial number   - sco043036
Ethernet address    - 00:00:c0:bb:59:1a
Internet address    - 128.1.1.111
Network mask        - 255.255.255.0
Broadcast address   - 128.1.1.255
Host account        - Nortel
```

network

/sci/admin

Action

Access submenu.

Function

Perform network configuration functions.

Accessed By

Service, admin accounts.

Description

The `network` option accesses a submenu of options for managing the network configuration of the MRS or logging in to the AP. You can display the current configuration, or modify the node name and Internet address. Selecting the `done` option returns control to the `/sci` menu.

See also

`hosts` (`/sci/admin/hosts` menu)

Example

```
/sci/admin>  network
inet  - Display Internet Configuration.
name  - Set Internet Hostname.
addr  - Set Internet Address.
telnet- Telnet to Host.
done  - Return to the previous menu.
```

inet

/sci/admin/network

Action

Executes a function.

Function

Display Internet configuration.

Accessed By

Service, admin accounts.

Description:

The `inet` option displays the current network configuration of the MRS. (This is the same as selecting the `inet` option from the `/sci/admin/hosts` menu.)

See also

`name` (`/sci/admin/network` menu), `addr` (`/sci/admin/network` menu)

Example

```
/sci/admin/network>  inet
System node name            - nortel
Domain Name                 - nt.com
CPU Type                    - Pentium
SCO release number          - 3.2v5.0.2
SCO serial number           - 2CI048524
Number of Network Adapters  - 1
Network Driver(s) Installed - sme0
Ethernet address sme0       - 00 00 c0 83 31 dc
Internet address sme0       - 10.5.1.3
Network mask sme0           - 255.0.0.0
Broadcast address sme0      - 10.255.255.255
```

name

/sci/admin/network

Action

Executes a function.

Function

Set Internet hostname.

Accessed By

Service, admin accounts.

Description

The `name` option changes the node name of your MRS. After changing the node name, you must restart the system.

> ***Note:*** Nortel does not recommend changing the node name because it is already unique; it represents the MRS's serial number.

See also

`inet` (`/sci/admin/network` menu), `addr` (`/sci/admin/network` menu)

Example

This example changes the node name from `MRS00143` to `sft2000`.

```
/sci/admin/network>  name
Would you like to change the system node name? (y/n) [n]: y
Changing System Node Name
Current system node name is -> nortel <-
Please enter new system node name []: sft2000
System node name will be changed to -> sft2000 <-
Is this correct? (y/n) [n]: y
Proceeding with Update
The UNIX Operating System will now be rebuilt.
This will take a few minutes. Please wait.
Root for this system build is /.
The UNIX Kernel has been rebuilt.
Backing up /unix to /unix.old
Installing new /unix
Setting up new kernel environment
```

addr

/sci/admin/network

Action

Executes a function.

Function

Set Internet address.

Accessed By

Service, admin accounts.

Description

The `addr` option changes the Internet address of the MRS. This option is useful for configuring your MRS so that it has a unique, yet compatible, address on the local area network.

Before selecting this option you need to know the following about the local area network to which the MRS is connected: the Domain name of the Ethernet module in the MRS, the Internet address to be assigned, whether or not the interface uses a broadcast address of all zeros (and if not, the broadcast address to be used), and the network mask. When you select the `addr` option, the SCI prompts you to enter this information.

This option invokes the SCO UNIX 5.0.2 Network Configuration Manager. Refer to the SCO UNIX documentation for further information about its use.

> ***Note:*** After you change the Internet address you should restart the system.

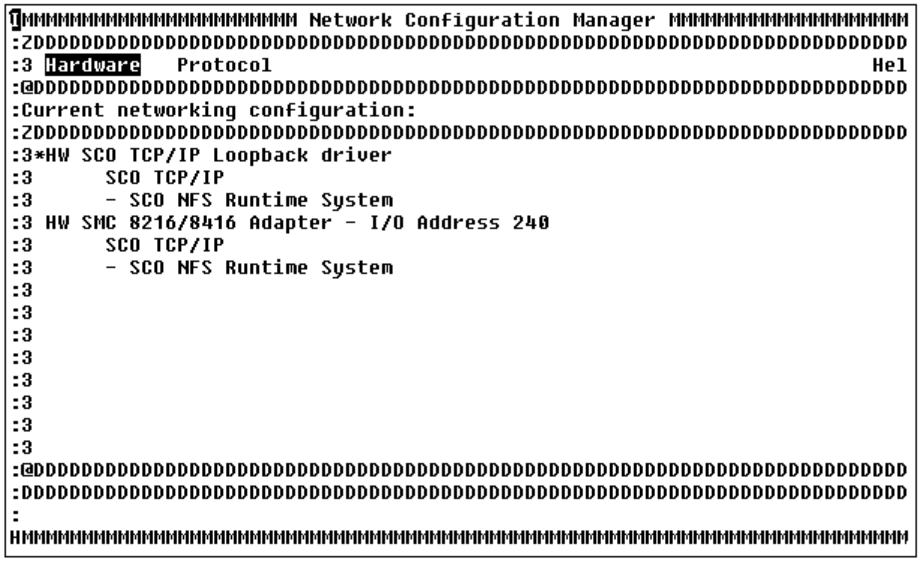
See also

`inet` (`/sci/admin/network` menu)

Example

This example sets the IP address to 128.1.1.170.

```
/sci/admin/network>  addr
Would you like to change the Internet Address? (y/n) [n]: y
```


Network Configuration Manager
Hardware
Protocol
Hel
Current networking configuration:
3*HW SCO TCP/IP Loopback driver
SCO TCP/IP
- SCO NFS Runtime System
3 HW SMC 8216/8416 Adapter - I/O Address 240
SCO TCP/IP
- SCO NFS Runtime System

telnet

/sci/admin/network

Action

Executes a function.

Function

Telnet to host.

Accessed By

Service, admin accounts.

Description

The `telnet` option allows you to connect to an AP. This can be useful when you are performing remote administration on your MRS (using modem communications) and want to check activity on the AP.

When using this option, enter `telnet` and press <Enter>. The SCI will prompt you to enter the address or node name of the AP. Once you are connected to the AP, log in to a valid user account.

catalog

/sci/admin

Action

Access submenu.

Function

Display option package information.

Accessed By

Service, admin, user accounts.

Description

The `catalog` option accesses a submenu of options for monitoring the software installed on the MRS. You can display the installed software by package name or by revision level, and verify that a package includes all of the required files.

Example

```
/sci/admin>  catalog
rev          - Display the revision levels of all packages
procrev      - Display the full revision/checksum of all
               processes
display      - Display all packages installed in the system
verify       - Verify all installed option packages
check       - Check the integrity of an install package diskette
done         - Return to the previous menu
```

rev

/sci/admin/catalog

Action

Executes a function.

Function

Display the revision levels of all packages.

Accessed By

Service, admin, user accounts.

Description

The `rev` option displays the current revision levels of all the software installed on the MRS. (This option is the same as the `rev` option accessible from the `/sci/install` menu.)

See also

`display` (`/sci/admin/catalog` menu)

Example

Selecting the `rev` option displays the various packages installed on the MRS.

```
/sci/admin/catalog>  rev
MRS   Base Package  Revision 4.00
MRS   Fax Option  Revision 4.00
MRS   Speech Recognition Option  Revision 4.00
TSP  System Configuration  Revision 4.00
UNIX     Revision 3.2 Version 2
DIALOGIC Firmware /usr/dialogic/data/d12x.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d4xd.fwl Revision 2.40
DIALOGIC Firmware /usr/dialogic/data/d8x.fwl Revision 2.40
```

procrev

/sci/admin/catalog

Action

Executes a function.

Function

Display the full revision/checksum of all processes.

Accessed By

Service, admin, user accounts.

Description

The `procrev` option displays the full revision/checksum of all processes currently running on the MRS.

Example

```
/sci/admin/catalog> procrev
Process Name :    Full Revision           :  Checksu
------------      -------------              -------
  hwm        : Revision 4.00.00.05 scbus  :  9967 88
  dcm        : Revision 4.00.00.05 scbus  :  28531 211
  uvm        : Revision 4.00.00.05 scbus  :  51960 80
  bas        : Revision 4.00.00.05 scbus  :  8255 91
  acm        : Revision 4.00.00.05        :  58588 95
  atts       : Revision 4.00.00.05        :  42617 163
  gccas      : Revision 4.00.00.05 scbus  :  44695 269
  rmgr       : Revision 4.00.00.05 scbus  :  54851 130
  psm        : Revision 4.00.00.05 scbus  :  44695 269
```

display

/sci/admin/catalog

Action

Executes a function.

Function

Display all packages installed on the system.

Accessed By

Service, admin, user accounts.

Description

The `display` option displays the available option packages installed on the MRS. This option is the same as the `display` option on the `/sci/install` menu, and is useful for verifying that a package is already installed on the system. This option may not reflect the actual configuration of your system.

See also

`rev` (`/sci/admin/catalog` menu)

Example

```
/sci/admin/catalog>  display
Dialogic Generic Voice Development Platform
Dialogic Springboard-D4xD Firmware Support
Dialogic DTI/xxx UNIX Development Package
MRS  Base Package for SCO PEB
MRS  System Configuration
```

verify

/sci/admin/catalog

Action

Executes a function.

Function

Verify all installed option packages.

Accessed By

Service, admin accounts.

Description

The `verify` option verifies that all of the files associated with an option package are loaded on the MRS. The SCI displays all of the files that are loaded and identifies any files that could not be found. (This is the same as the `verify` option on the `/sci/install` menu.)

Example

```
/sci/admin/catalog>  verify
Verifying installed package integrity--------------------------
Verifying MRS  Base Package
Verifying MRS  Fax Option
Verifying MRS  US Country Parameters
Verifying MRS  Nortel System Panel Driver
Verifying MRS  Speech Recognition Option
Verifying MRS  MRS/Tower System Configuration
Checking Cross Package Requirements--------------------------
All installed packages have been verified----------------------
```

check

/sci/admin/catalog

Action

Executes a function.

Function

Check the integrity of an install package disk.

Accessed By

Service, admin accounts.

Description

The `check` option allows you to verify that a floppy disk is readable. This option is particularly useful for checking floppy disks included in a software installation package to ensure they do not contain errors as a result of shipping.

The `check` option can also be used to verify that a floppy disk has been properly formatted with the `prepare` option prior to starting a backup procedure, or that it already contains files backed up with the `backup` option.

See also

`/sci/install/check`

Example

This example checks three disks. The first floppy was previously formatted with the `prepare` option or already contains backed-up files. The second floppy contains installation software and is readable. The third floppy contains errors and is not readable.

```
/sci/admin/catalog>  check
Insert the floppy to check - type q to quit or hit ENTER to
continue
Nortel Data File Backup/Restore Format

/sci/admin/catalog> check
Insert the floppy to check - type q to quit or hit ENTER to
continue
Nortel Format: MRS MRS/Tower System Configuration Revision 4.00

/sci/admin/catalog> check
```

```
Insert the floppy to check - type q to quit or hit ENTER to
continue
ERROR Reading Input Media:
The disk may not be in install package format.
Media errors may have occurred during shipment.
Contact Nortel customer service to arrange for
replacement media to be issued.
/sci/admin/catalog>
```

license

/sci/admin

Action

Displays a submenu.

Function

Displays the license menu.

Accessed By

Service, admin, user accounts.

Description

The `license` option displays a submenu of options for managing the license manager.

Example

```
/sci/admin>  license
load          - Load a new license file from floppy.
display       - Display the license file.
hostid        - Display system hostname and hostid.
avail         - Display all licenses available.
active        - Display all licenses currently active.
restart       - Restart the license manager.
checkout      - Checkout all licenses and report status.
status        - Display the license manager status.
version       - Display the license manager version.
log           - Display the license manager event log.
done          - Return to the previous menu.
```

load

/sci/admin/license

Action

Executes a function.

Function

Load a new license file from floppy.

Accessed By

Service, admin, user accounts.

Description

The `load` option loads a new license file from a floppy disk.

display

/sci/admin/license

Action

Executes a function.

Function

Display the license file.

Accessed By

Service, admin, user accounts.

Description

The `display` option lists the contents of the license file.

Example

This example shows the contents of the license file currently loaded on the MRS with hostname gambit.default.com. Notice that you can edit some portions of this file (see the included note).

```
/sci/admin/license>  display
SERVER gambit.default.com ID_STRING=sco043036 10050
DAEMON vtek .
FEATURE genTSP-odt-telephone vtek 4.000 1-may-96-96 99
1BBCA071E7E86FBCDD6D ck=36
FEATURE genAP-odt-development vtek 4.000 1-may-96 24
6BEC005114701239B97F \
         ck=229
FEATURE genTSP-odt-asr vtek 4.000 1-may-96 24
6B4CB06158710D92C7AF ck=237
FEATURE genTSP-odt-fax vtek 4.000 1-may-96 24
5BBCB0B160760DB8B477 ck=245
FEATURE genTSP-odt-tts vtek 4.000 1-may-96 24
4BBC209194E40D93AF73 ck=16
FEATURE genTSP-odt-dmx vtek 4.000 1-may-96 24
5BDCB09164740DB8B673 ck=34
FEATURE genTSP-odt-volumes vtek 4.000 1-may-96 24
8B0CF031FD88790C9C03 ck=43
FEATURE genTSP-odt-ccs vtek 4.000 1-may-96 24
5B5CB08169730D93B99E ck=252
FEATURE genTSP-odt-ups vtek 4.000 1-may-96 24
4BEC20A158E50D93B2AF ck=239
FEATURE genTSP-odt-diskmirror vtek 4.000 1-may-96 24
7BBC7021696882E29E5E \
```

```
         ck=17
#NOTE: You can edit the hostname on the server line (1st arg),
#      the port address on the server line (3rd arg), the path
#      to the daemon on the daemon line (2nd arg), or any
#      right-half of a string (b) of the form a=b where (a) is
all
#      lowercase. (For example, xxx in  vendor_info=”xxx” can be
#     changed).  Any other changes will invalidate this license.
```

hostid

/sci/admin/license

Action

Executes a function.

Function

Display the system hostname and host ID.

Accessed By

Service, admin, user accounts.

Description

The `hostid` option displays the hostname and ID of the MRS in which the license file is loaded.

Example:

```
/sci/admin/license>  hostid
hostname:  gambit.default.com
lmhostid - Copyright (C) 1989-1994 Globetrotter Software, Inc.
The FLEXlm host ID of this machine is “ID_STRING=sco043036”
```

avail

/sci/admin/license

Action

Executes a function.

Function

Display all available licenses.

Accessed By

Service, admin, user accounts.

Description

The `avail` option displays information about all of the available licenses as defined by the loaded license file.

> ***Note:*** If the license manager has not been restarted (`restart` option from this menu) or forced to reread the license file (`reread` option) since it was last updated, the information displayed by `avail` may not reflect the current state of the license manager.

Example

```
/sci/admin/license>  avail
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Tue 6/10/97 12:14

Feature                Version # licenses     Expires   Vendor
_______                _______   __________   _______   _______
genTSP-odt-runtime      9.999       1    1-jan-0 vtek
genTSP-odt-telephone-d  9.999      9999  1-jan-0 vtek
genTSP-odt-fax-b        9.999      9999  1-jan-0 vtek
genTSP-odt-fax-g        9.999      9999  1-jan-0 vtek
genTSP-odt-asr-vc       9.999      9999  1-jan-0 vtek
genTSP-odt-asr-vd       9.999      9999  1-jan-0 vtek
genTSP-odt-asr-vdt      9.999      9999  1-jan-0 vtek
genTSP-odt-asr-pc       9.999      9999  1-jan-0 vtek
genTSP-odt-asr-pl       9.999      9999  1-jan-0 vtek
genTSP-odt-asr-pp       9.999      9999  1-jan-0 vtek
genTSP-odt-asr-h        9.999      9999  1-jan-0 vtek
genTSP-odt-tts-c        9.999      9999  1-jan-0 vtek
genTSP-odt-tts-l        9.999      9999  1-jan-0 vtek
genTSP-odt-dpd          9.999      48    1-jan-0 vtek
genTSP-odt-ccs          9.999      9999  1-jan-0 vtek
```

```
genTSP-odt-ups          9.999      9999  1-jan-0 vtek
genTSP-odt-diskmirror   9.999      9999  1-jan-0 vtek
genTSP-odt-volumes      9.999      9999  1-jan-0 vtek
genAP-odt-runtime       9.999      9999  1-jan-0 vtek
genAP-odt-development   9.999      9999  1-jan-0 vtek
genAP-odt-promptmanager 9.999      9999  1-jan-0 vtek
genAP-odt-telephone     9.999      9999  1-jan-0 vtek
genAP-odt-fax           9.999      9999  1-jan-0 vtek
genAP-odt-asr           9.999      9999  1-jan-0 vtek
genAP-odt-tts           9.999      9999  1-jan-0 vtek
genAP-odt-cellbuilder   9.999      2     1-jan-0 vtek
genAP-odt-sqlingres     9.999      9999  1-jan-0 vtek
genAP-odt-sqloracle     9.999      9999  1-jan-0 vtek
genAP-odt-sqlsybase     9.999      9999  1-jan-0 vtek
genAP-odt-sqlinformix   9.999      9999  1-jan-0 vtek
genAP-odt-host3270      9.999      9999  1-jan-0 vtek
genAP-odt-host5250      9.999      9999  1-jan-0 vtek
genAP-odt-hostvt100     9.999      9999  1-jan-0 vtek
genAP-odt-adsi          9.999      9999  1-jan-0 vtek
genAP-odt-snmp          9.999      9999  1-jan-0 vtek
genTSP-odt-snmp         9.999      9999  1-jan-0 vtek
```

active

/sci/admin/license

Action

Executes a function.

Function

Display all licenses currently active.

Accessed By

Service, admin, user accounts.

Description

The `active` option displays all of the licenses that are currently in use by the MRS software (or any other party using this instance of the license manager).

Example

```
/sci/admin/license>  active
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Wed 11/8/95 08:46

License server status (License file: 10050@localhost):

vk00000.de: license server UP (MASTER)

Vendor daemon status (on vk00000.default.com):

      vtek (v3.x): UP

Feature usage info:

Users of genTSP-odt-volumes:  (Total of 24 licenses available)

  ìgenTSP-odt-volumesî v4.000, vendor: vtek
  24 floating licenses

    root vk00000.default.com /dev/tty (v4.00)
(vk00000.default.com/10050 102), start Tue 11/7 15:34, 2
licenses
```

restart

/sci/admin/license

Action

Executes a function.

Function

Restart the license manager.

Accessed By

Service account.

Description

The `restart` option kills the license manager daemon and starts a new instance of the daemon. The license manager will reread the current license file. If new licenses have been added to the license file since the last time the MRS software was reset, the new licenses will not take effect until you reset the MRS software (`reset` option from the `/sci` menu).

Example

```
/sci/admin/license>  restart
lmdown - Copyright (C) 1989-1994 Globetrotter Software, Inc.

Shutting down FLEXlm on nodes: vk00000.default.com
Are you sure? [y/n]: Shut down FLEXlm server on node
vk00000.default.com
    1 FLEXlm License Server shut down
```

checkout

/sci/admin/license

Action

Executes a function.

Function

Check out all licenses and report status.

Accessed By

Service account.

Description

The `checkout` option reviews each of the available licenses and reports any errors.

See also

`status` (`/sci/admin/license` menu)

`version` (`/sci/admin/license` menu)

`log` (`/sci/admin/license` menu)

Example

```
/sci/admin/license>  checkout
lmdiag - Copyright (C) 1989-1994 Globetrotter Software, Inc.
FLEXlm diagnostics on Wed 11/8/95 08:48

-----------------------------------------------------------------
License file: 10050@localhost
-----------------------------------------------------------------
genTSP-odt-telephone v4.000, vendor: vtek
  License server: vk00000.default.com
  99 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-------------------------------------------------

Enter <CR> to continue:
genAP-odt-development v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
```

```
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------

Enter <CR> to continue:
genTSP-odt-asr v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------

Enter <CR> to continue:
genTSP-odt-fax v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------

Enter <CR> to continue:
genTSP-odt-tts v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------

Enter <CR> to continue:
genTSP-odt-dmx v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------

Enter <CR> to continue:
genTSP-odt-volumes v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
---------------------------------------------------
```

```
Enter <CR> to continue:
genTSP-odt-ccs v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
genTSP-odt-ups v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------

Enter <CR> to continue:
genTSP-odt-diskmirror v4.000, vendor: vtek
  License server: vk00000.default.com
  24 floating licenses
  starts: 1-jan-94, expires: 1-may-96

This license can be checked out
-----------------------------------------------------
```

status

/sci/admin/license

Action

Executes a function.

Function

Display the license manager status.

Accessed By

Service, admin, user accounts.

Description

The `status` option displays the current run status of the license manager daemon.

See also

`checkout` (`/sci/admin/license` menu)
`version` (`/sci/admin/license` menu)
`log` (`/sci/admin/license` menu)

Example

```
/sci/admin/license>  status
lmstat - Copyright (C) 1989-1994 Globetrotter Software, Inc.
Flexible License Manager status on Wed 11/8/95 08:49

License server status (License file: 10050@localhost):

vk00000.de: license server UP (MASTER)

Vendor daemon status (on vk00000.default.com):

      vtek (v3.x): UP

Feature usage info:

Users of genTSP-odt-telephone:  (Total of 99 licenses available)


Users of genAP-odt-development:  (Total of 24 licenses
available)
```

```
Users of genTSP-odt-asr:  (Total of 24 licenses available)
Users of genTSP-odt-fax:  (Total of 24 licenses available)

Users of genTSP-odt-tts:  (Total of 24 licenses available)

Users of genTSP-odt-dmx:  (Total of 24 licenses available)


Users of genTSP-odt-volumes:  (Total of 24 licenses available)

  ìgenTSP-odt-volumesî v4.000, vendor: vtek
  24 floating licenses

    root vk00000.default.com /dev/tty (v4.00)
(vk00000.default.com/10050 111), start Wed 11/8 8:48, 2 licenses

Users of genTSP-odt-ccs:  (Total of 24 licenses available)


Users of genTSP-odt-ups:  (Total of 24 licenses available)


Users of genTSP-odt-diskmirror:  (Total of 24 licenses
available)
```

version

/sci/admin/license

Action

Executes a function.

Function

Display the license manager version.

Accessed By

Service, admin, user accounts.

Description

The `version` option displays the license manager version currently loaded on the MRS.

See also

`status` (`/sci/admin/license` menu)

`checkout` (`/sci/admin/license` menu)

`log` (`/sci/admin/license` menu)

Example

```
/sci/admin/license>  version
lmver - Copyright (C) 1989-1994 Globetrotter Software, Inc.
FLEXlm Copyright 1988-1994, Globetrotter Software, Inc.0
FLEXlm 4.1 (lmgr_s.a), Copyright (C) 1988, 1993 Globetrotter
Software, Inc.
FLEXlm 4.1 (lmgr.a), Copyright (C) 1988-1994 Globetrotter
Software, Inc.
```

log

/sci/admin/license

Action

Executes a function.

Function

Display the license manager event log.

Accessed By

Service, admin, user accounts.

Description

The `events` option displays the event log for the license manager.

See also

`status` (`/sci/admin/license` menu)

`version` (`/sci/admin/license` menu)

`checkout` (`/sci/admin/license` menu)

Example

```
/sci/admin/license>  log
 8:47:48 (lmgrd) FLEXlm (v4.1) started on vk00000.default.com
(sco i80486/ISA) (11/8/95)
 8:47:48 (lmgrd) FLEXlm Copyright 1988-1994, Globetrotter
Software, Inc.
 8:47:48 (lmgrd) License file: ì/usr/vrs/lm/license.datí
 8:47:48 (lmgrd) Starting vendor daemons ...
 8:47:48 (lmgrd) Started vtek
 8:47:48 (vtek) Server started on vk00000.default.com for:
genTSP-odt-telephone
 8:47:48 (vtek) genAP-odt-development genTSP-odt-asr
genTSP-odt-fax
 8:47:48 (vtek) genTSP-odt-tts  genTSP-odt-dmx
genTSP-odt-volumes
 8:47:48 (vtek) genTSP-odt-ccs  genTSP-odt-ups
genTSP-odt-diskmirror
 8:48:21 (vtek) Updating feature genTSP-odt-telephone
 8:48:21 (vtek) Updating feature genAP-odt-development
 8:48:21 (vtek) Updating feature genTSP-odt-asr
 8:48:21 (vtek) Updating feature genTSP-odt-fax
```

```
 8:48:21 (vtek) Updating feature genTSP-odt-tts
 8:48:21 (vtek) Updating feature genTSP-odt-dmx
 8:48:21 (vtek) Updating feature genTSP-odt-volumes
 8:48:21 (vtek) Updating feature genTSP-odt-ccs
 8:48:21 (vtek) Updating feature genTSP-odt-ups
 8:48:21 (vtek) Updating feature genTSP-odt-diskmirror
 8:48:37 (vtek) OUT: genTSP-odt-telephone
root@vk00000.default.com
 8:48:37 (vtek) IN: genTSP-odt-telephone
root@vk00000.default.com
 8:48:40 (vtek) OUT: genAP-odt-development
root@vk00000.default.com
 8:48:40 (vtek) IN: genAP-odt-development
root@vk00000.default.com
 8:48:42 (vtek) OUT: genTSP-odt-asr root@vk00000.default.com
 8:48:42 (vtek) IN: genTSP-odt-asr root@vk00000.default.com
 8:48:42 (vtek) OUT: genTSP-odt-fax root@vk00000.default.com
 8:48:42 (vtek) IN: genTSP-odt-fax root@vk00000.default.com
 8:48:43 (vtek) OUT: genTSP-odt-tts root@vk00000.default.com
 8:48:43 (vtek) IN: genTSP-odt-tts root@vk00000.default.com
 8:48:44 (vtek) OUT: genTSP-odt-dmx root@vk00000.default.com
 8:48:44 (vtek) IN: genTSP-odt-dmx root@vk00000.default.com
 8:48:45 (vtek) OUT: genTSP-odt-volumes root@vk00000.default.com
 8:48:45 (vtek) IN: genTSP-odt-volumes root@vk00000.default.com
 8:48:46 (vtek) OUT: genTSP-odt-ccs root@vk00000.default.com
 8:48:46 (vtek) IN: genTSP-odt-ccs root@vk00000.default.com
 8:48:46 (vtek) OUT: genTSP-odt-ups root@vk00000.default.com
 8:48:46 (vtek) IN: genTSP-odt-ups root@vk00000.default.com
 8:48:47 (vtek) OUT: genTSP-odt-diskmirror
root@vk00000.default.com
 8:48:47 (vtek) IN: genTSP-odt-diskmirror
root@vk00000.default.com
 8:48:53 (vtek) OUT: genTSP-odt-volumes root@vk00000.default.com
(2 licenses)
```

Maintenance menu (/sci/maint)

```
/sci>  maint
announce     - Enter Configured Auto Announcement Mode.
init         - Reinitialize an individual channel.
download     - Download the system firmware and parameters.
shutdown     - Shutdown the system.
restart      - Restart the system.
params       - Display & modify trunk parameters.
done         - Return to the previous menu.
/sci/maint>
```

This menu of system maintenance options is displayed when you select the `maint` option from the Main Menu (`/sci`). Each of the options listed on this menu is discussed in this section.

announce

/sci/maint

Action

Executes a function.

Function

Enter Configured Auto Announcement Mode.

Accessed By

Service, admin accounts.

Description

The announce option forces the MRS into Auto Announce Mode, simulating a failure of the application server communication link (that is, a host failure). Use of the announce option becomes necessary if rebooting the system fails to reestablish the communication link.

Auto Announce Mode places the MRS in the Host Link Failure Mode already set up in the system configuration parameters. The "Host Link Failure Mode" parameter defines the system behavior when communication with the application server is abruptly lost. This parameter can be set to ignore all new calls, busy-out all trunks so that no new calls are received, or run an embedded auto-announce application, which automatically answers all calls and informs the caller that the system is temporarily out of service.

See also

system (/sci/config menu)

Example

```
/sci/maint>  announce
************************************************************
WARNING - This option should only be executed if the host is
      not currently connected to the system or if the host
      is down.  This option will force the system into the
      Host Link Failure Mode which is set in the system
      configuration file.
************************************************************
Are you sure you wish to continue?
Current continue?  = no
yes  - Continue with operation.
```

```
no   - Return to previous menu.
    continue?  = yes
Host Link Failure Mode Set
```

init

/sci/maint

Action

Executes a function.

Function

Reinitialize an individual channel.

Accessed By

Service, admin accounts.

Description

The `init` option reinitializes a specific channel. When you select this option, the SCI prompts you to identify the channel. The channel you identify is gracefully detached from applications running on the application server, reinitialized, and then returned to application server control.

Example

```
/sci/maint>  init
Default Channel to reset = 0
  Channel to reset =
Channel Reset Successfully
```

download

/sci/maint

Action

Executes a function.

Function

Download the system firmware and parameters.

Accessed By

Service account.

Description

The `download` option reloads firmware on all modules and performs a full system reset.

See also

`reset` (`/sci` menu)

shutdown

/sci/maint

Action

Executes a function.

Function

Shut down the system.

Accessed By

Service, admin accounts.

Description

The `shutdown` option gracefully terminates all UNIX processes running on the MRS. It stops the MRS software, reloads all firmware, and restarts the MRS without killing UNIX. This process is the same as that started by pressing and holding the Shutdown switch on the front panel of the MRS.

> ***Note:*** The shutdown procedure must be performed prior to powering down the MRS.

Once the system has shut down, you can safely power down the MRS or reboot the system.

See also

`restart` (`/sci/maint` menu)

Example

This example illustrates some of the messages you may encounter during the shutdown process.

```
/sci/maint>  shut
About to shutdown the system.
Current      Do you wish to shutdown the system? = no
  yes  Continue with operation
  no   Return to previous menu
Do you wish to shutdown the system? = yes
INIT: New run level: 0
The system is coming down.  Please wait.
System services are now being stopped.
Shutting Down the MRS Service
MRS Service Shutdown Complete.
```

```
/usr/dialogic/bin/sbastop: Stopping board device /dev/d12B1
cpd: SIOCGIFADDR Connection refused
cron aborted: SIGTERM
! SIGTERM Thu Jan 07 09:35:36 EST 1993
!! ******* CRON ABORTED ********
Thu Jan 07 09:35:36 EST 1993
TCP Shutdown...
slink exiting: SIGTERM
TCP Shutdown Complete.

The system is down.

**   Safe to Power Off   **
     -or-
** Press Any Key to Reboot **
```

restart

/sci/maint

Action

Executes a function.

Function

Restart the system.

Accessed By

Service, admin accounts.

Description

The `restart` option reboots the MRS. When you select the `restart` option, the SCI gracefully shuts down the system and then starts the automatic boot procedure. This process takes approximately five minutes.

See also

`shutdown` (`/sci/maint` menu), `reset` (`/sci` menu)

params

/sci/maint

Action

Access submenu.

Function

Display and modify trunk parameters.

Accessed By

Service account.

Description

The `params` option accesses a submenu of options for viewing and changing trunk parameter values. Select the `done` option to return to the `/sci/maint` menu.

See also

`/sci/config/trunk` menu

Example

```
/sci/maint>  params
country      - Configure country specific parameters
list         - Display default values for all parameters
dcm_custom   - Modify systemwide dcm parameter file
edit         - Modify parameters for a specific trunk type
new          - Copy parameters to a new trunk type
delete       - Delete a trunk type
syntax       - Trunk type syntax checking
done         - Return to the previous menu
```

country

/sci/maint/params

Action

Executes a function.

Function

Configure country-specific parameters.

Accessed By

Service account.

Description

The `country` option modifies the country parameters to be used by your system. The currently configured country value is identified, and you are prompted on whether or not to change this value. If you wish to change the country parameters, the SCI displays a list of available countries. The available options include the following:

- Belgium (analog)
- China (digital E1, analog)
- Denmark
- Hong Kong (analog, digital T1)
- Italy (analog)
- Mexico (analog, digital E1)
- Netherlands (analog)
- Norway (analog)
- Switzerland (analog)
- United Kingdom (analog)
- United States (analog, digital T1)

See also

`/sci/config/trunk` menu

Example

The following example changes the country setting from United States parameters to Mexico.

```
/sci/maint/params>  country

The system is presently configured using United States country
parameters

Do you wish to change the country parameters? [y/n]: y

Are you using an ACL E1 network card? [y/n]: n

 1.  Australia 14. Luxembourg
 2.  Austria   15. Mexico
 3.  Belgium   16. Morocco
 4.  China     17. Netherlands
 5.  Denmark   18. New Zealand
 6.  Finland   19. Norway
 7.  Germany   20. Portugal
 8.  Hong Kong 21. South Africa
 9.  Hungary   22. Spain
10.  Italy     23. Sweden
11.  Israel    24. Switzerland
12.  Japan     25. United Kingdom
13.  Korea     26. United States

Enter the number of the country where
this system is to be installed. ? 15

This system will be configured using Mexico country parameters

Do you wish to continue the installation [y/n]:y
Installing files...

The Mexico Country Parameters
have now been installed.
```

list

/sci/maint/params

Action

Executes a function.

Function

Display default values for all parameters.

Accessed By

Service account.

Description

The `list` option displays the Default Channel Parameter File. This file contains the parameter values that tune channel functions to operate properly in the specified network. The MRS uses these parameter values unless a trunk-type definition explicitly overrides the corresponding parameters.

See also

`new` (`/sci/main/params` menu)

Example

This example lists parameters included in the Default Channel Parameter File.

```
/sci/maint/params>  list
#
#   MRS - DCM Default US Channel Parameter File
#   this file contains the parameter values
#   which tune dcm channel functions to operate
#   properly in the US Network.
#
#   Common Parameters
#   type        - MUST be set by the specific trunk type
#   usedti      - MUST be set by the specific trunk type
set allowmf     1;      # default to allowing MF on all trunk types
set allowdp     0;      # do not always allow dp since some TIs false
set usetones    0;      # do not allocate mem for tones if 0
set setmode     0;      # allow host to control digit mode if 0
set playgain    0;      # Use standard play gain on output
set delaylen    2;      # 2 seconds standard delay length
set boardtype   0;      # type of voice board used (0=D/121A 1=D/121B)
```

```
set ttsqueue    0;      # tts resource queueing (0=disabled 1=enabled)
set useagc      1;      # use AGC for record (0=disabled 1=enabled)
set recsil      0;      # Enable/Disable silence during record as an event
set usecdbits   0;      # Only set and require values for AB on digital lines
set usesit      0;      # Use SIT tone detection
set usefax      0;      # Use FAX tone detection
set usespeed    0;      # Do not use speed and volume control
set usedti      0;      # Is this a digital interface
set ns42        0;      # Does this hardware support NS42 switches
set hasadsi     0;      # Does this hardware support ADSI

#   Hook State Control Parameters
set flashlen    50;     # duration of a outdial flash hook and dial ì&î
set flashlen2   50;     # duration of a generated flash hook (7F)
set flashmsk    0xF;    # Hook-flash bit invert mask (DCBA)
set minoffhk    0;      # minimum time the trunk must be off hook
set winklen     20;     # duration of a generated wink (regular)
set winkmsk     0xF;    # wink bit invert mask (DCBA)
set pulselen    25;     # duration of a meter pulse
set pulsemsk    0xF;    # meter-pulse bit invert mask (DCBA)
set offhdly     5;      # min relay settling delay after offhook
set winkdly     5;      # min delay between ring detect and wink
set minrwink    5;      # min duration for a detected wink
set maxrwink    45;     # max duration for a detected wink

#   Hook State Detection Parameters
set minlcoff    35;     # Minimum Loop Current Off
set r_edge      1;      # leading(1) or trailing(2) edge for ring detection
set r_ird       80;     # inter-ring delay for ring cycle
set r_off       5;      # off time during ring cycle
set r_on        3;      # on time during ring cycle
set ringcnt     1;      # number of rings to wait on incoming calls

#   Indialing General Parameters
set calltype    0;      # type of digits to expect during the call (0,1,2)
set dnistype    0;      # type of DNIS to expect (0=DTMF, 1=MF, 2=DP)
set dnisnum     0;      # number of DNIS to expect (0=variable)
set anitype     0;      # type of ANI to expect (0=DTMF, 1=MF, 2=DP)
set aninum      0;      # number of ANI to expect (0=variable)
set pdtmo       1;      # pre-dial timeout
set idtmo       1;      # inter-digit timeout

#   Indialing DTMF Parameters
set dtmftlk     1;      # min debounce for dtmf during play
set dtmfdeb     0;      # min debounce for dtmf during record
set dflags      0;      # edge of digit to report detection on

#   Indialing MF Parameters
set mfminon     0;      # min debounce for mf
```

```
set kptype      2;      # length of an expected KP digit

#   Indialing DP Parameters
set minbreak    2;      # min length of a break pulse
set minmake     2;      # min length of a make pulse
set maxbreak    35;     # max length of a break pulse
set maxmake     25;     # max length of a make pulse

#   Outdialing General Parameters
set dialtype    0;      # type of digits to dial (0=DTMF, 1=MF, 2=DP)
set dialdly     100;    # duration of pre-dial delay after detecting network
set netchk      6;      # maxmimum amount of time to wait for network

#   Outdialing DTMF Parameters
set ttdata      9;      # duration of dialed dtmf digits
set t_idd       11;     # inter-digit pause for dialed dtmf digits

#   Outdialing MF Parameters
set mftone      9;      # Duration of dialed MF digits
set mfdelay     11;     # Duration of inter-digit pause for MF dialing
set kplength    10;     # Length of a generated KP digit

#   Outdialing DP Parameters
set breaklen    4;      # Duration of dialed break pulse
set makelen     6;      # Duration of dialed make pulse
set dpidd       25;     # Duration of a dialed inter-digit make interval

#   Outdialing Call Analysis Parameters - Ring & Busy Detect
set stdely      25;     # start delay for detection of silence
set cnosig      1775;   # continuous non-signal (pre-ring silence timeout)
set logltch     10;     # max low period to deglitch (ignore)
set higltch     20;     # max high period to deglitch (ignore)
set slowrmax    90;     # max short low period for rings
set llowrmin    225;    # min long low period for rings
set llowrmax    700;    # max low period for rings
set slowbmax    90;     # max short low period for busy
set llowbmax    90;     # max long low period for busy
set hibmax      90;     # max high period for busy
set nbrbeg      1;      # Number of rings to wait before call analysis
set slowrtol    30;     # tolerance for short low periods for rings (%)
set llowrtol    30;     # tolerance for long low periods for rings (%)
set hirtol      30;     # tolerance for first high periods for rings (%)

#   Outdialing Call Analysis Parameters - Answer Detect
set lcdly       6000;   # loop current drop detection delay
set maxansr     25;     # length of a valid answer
set ansrdgl     -1;     # answer de-glitch (post-ring silence timeout)
set usepamd     0;      # Use PAMD (positive answ. machine) (0=off, 1=on)
set pamdspd     1;      # PAMD speed value (1=full, 2=quick)
```

```
set pamdqual    11;     # PAMD qualification template (must be 11)
set pamdfail    400;    # PAMD maximum wait time (x10mS)
set pamdring    190;    # PAMD minimum ring duration (x10mS)

#   Progress Tone Detection Parameters
set dialf1      350;    # Dial Tone - Frequency 1
set dialf2      440;    # Dial Tone - Frequency 2
set dialftol    10;     # Dial Tone - Frequency Tolerance
set dialmin     200;    # Dial Tone - Minimum time on
set busyf1      480;    # Busy Tone - Frequency 1
set busyf2      620;    # Busy Tone - Frequency 2
set busyftol    10;     # Busy Tone - Frequency Tolerance
set busyon      40;     # Busy Tone on Cadence
set busyoff     40;     # Busy Tone off Cadence
set busyctol    50;     # Busy Tone - Cadence Tolerance
set busyrpt     2;      # Busy Tone - Repeat Count
set sdialf1     0;      # Second Dial Tone - Frequency 1
set sdialf2     0;      # Second Dial Tone - Frequency 2
set sdialftol   0;      # Second Dial Tone - Frequency Tolerance
set sdialmin    0;      # Second Dial Tone - Minimum time on
set fax1f1      1100;   # Fax/Modem Tone #1
set fax1f2      0;      # Fax/Modem Tone #1
set fax1ftol    20;     # Fax/Modem Tone #1
set fax1min     20;     # Fax/Modem Tone #1
set fax2f1      2100;   # Fax/Modem Tone #2
set fax2f2      0;      # Fax/Modem Tone #2
set fax2ftol    20;     # Fax/Modem Tone #2
set fax2min     20;     # Fax/Modem Tone #2
set disc1f1     0;      # Disconnect 1 Tone - Frequency 1
set disc1f2     0;      # Disconnect 1 Tone - Frequency 2
set disc1ftol   10;     # Disconnect 1 Tone - Frequency Tolerance
set disc1on     0;      # Disconnect 1 Tone on Cadence
set disc1off    0;      # Disconnect 1 Tone off Cadence
set disc1ctol   10;     # Disconnect 1 Tone - Cadence Tolerance
set disc1rpt    2;      # Disconnect 1 Tone - Repeat Count
set disc2f1     0;      # Disconnect 2 Tone - Frequency 1
set disc2f2     0;      # Disconnect 2 Tone - Frequency 2
set disc2ftol   10;     # Disconnect 2 Tone - Frequency Tolerance
set disc2on     0;      # Disconnect 2 Tone on Cadence
set disc2off    0;      # Disconnect 2 Tone off Cadence
set disc2ctol   10;     # Disconnect 2 Tone - Cadence Tolerance
set disc2rpt    2;      # Disconnect 2 Tone - Repeat Count
set uppert1     1000;   # Upper bound of 1st SIT freq
set lowert1     900;    # Lower bound of 1st SIT freq
set timet1      5;      # Debounce for 1st SIT freq
set adsif1      2130;   # ADSI Ack Tone
set adsif2      2750;   # ADSI Ack Tone
set adsia1      -15;    # ADSI Ack Tone
set adsia2      -15;    # ADSI Ack Tone
```

```
# Miscellaneous other parameters
set adsion      8;      # ADSI Ack Tone
set acdspre     0x1;    # ACD SPRE Code
set acdfcon     0x97;   # ACD Logon function code
set acdfcoff    0x97;   # ACD Logoff function code
set acdgroup    1000;   # ACD Agent Group

#   Special United States Network Parameters
set cnosil  250;    # this is just a place marker ***********
```

dcm_custom

/sci/maint/params

Action

Executes a function.

Function

Modify system-wide DCM parameter file.

Accessed By

Service account.

Description

The `dcm_custom` option modifies the system-wide DCM parameter file. This option places you in a vi editor session to modify this file.

Example

```
/sci/maint/params>  dcm_custom
# Default Feature Code Definitions
set feature00   “&,&”;    # Default Feature Code for Recover Caller
set feature01   “1,2,3,4”;    # Default Feature Code for Conference
set feature02   “,”;  # Default Feature Code for Drop 2nd Party
set feature03   “1,1,1,1”;  # Default Feature Code for Drop 2nd Party
```

edit

/sci/maint/params

Action

Executes a function.

Function

Modify parameters for a specific trunk type.

Accessed By

Service account.

Description

The `edit` option modifies the parameter values for an existing trunk type. When you select this option, the SCI opens the corresponding parameter file for editing. Keep in mind that installing new versions of the MRS software will overwrite factory-supplied trunk types with the latest versions. Consequently, your edits will be lost. To prevent this from happening, simply use the `new` option instead of the `edit` option.

> ***Note:*** You must be familiar with the vi editor to be able to edit a parameter file. Refer to UNIX documentation for further information about this editor.

To save your changes and return to the SCI prompt, type **`:x`**.

To quit without saving, type **`:q!`** and press <Enter>.

See also

`new` (`/sci/maint` menu)

Example

This example opens the DID trunk type parameter file.

```
/sci/maint/params>  edit
Current Trunk Type = 0
0            - DID
1            - DID-Pulse
2            - DID-Pulse-Wink
3            - FXS-T1-LoopStart
4            - LCO-LoopStart
5            - Loop-B
```

```
6            - LoopStart
7            - NS42
8            - T1-E&M
9            - T1-E&M-Wink
  Trunk Type =0
#=========================================================
# Trunk Types Defined:
# [PSTN-]DID Trunk Type                    Revision 4.00

# General Description:
# DID Trunk Services as presented by a US PSTN Analog CO
# Hardware Supported:                       DID/120
# Signaling Formats:
# Tx:          A=1                          Battery Reversed
#              A=0                          Battery Normal
#
define DID
# Define the required parameters for any trunk type
  set type = 0x6000;        # type code is 60 (analog DID) subcode is 00
  set usedti = 0;            #This trunk uses LC/RING events

  # Alter the ring parameters to allow the DID/120 to work properly
  set r_ird = 1;                # Set debounce times to the minimum
  set r_on = 1;               # since this board measures Loop-Battery
  set r_off = 1;               # reversal instead of a ring cycle

î/usr/vrs/types/did.ttî 39 lines, 1385 characters
```

new

/sci/maint/params

Action

Executes a function.

Function

Copy parameters to a new trunk type.

Accessed By

Service account.

Description

The `new` option creates a new trunk type file using the vi editor. Unless you explicitly override the parameters in the Default Channel Parameter File, the new trunk type will use the default values.

Use of this option is preferred to the `edit` option for creating a trunk type. The reason is that installing a new version of the MRS software automatically overwrites the factory-supplied trunk types, whereas a new trunk type would be unaffected.

See also

`list` (`/sci/maint/params` menu)

Example

This example creates a new trunk type named loop2.

```
/sci/maint/params>  new
Current Trunk Type = 0
0            - DID
1            - DID-Pulse
2            - DID-Pulse-Wink
3            - FXS-T1-LoopStart
4            - LCO-LoopStart
5            - Loop-B
6            - LoopStart
7            - NS42
8            - T1-E&M
9            - T1-E&M-Wink
        Trunk Type =
Default New type name:  = UnNamed
```

```
New type name:  = loop2
ì/usr/vrs/types/.ttî 42 lines, 1500 characters
#=======================================================
# Trunk Types Defined:
#[PSTN-] Trunk Type Revision 4.00
# General Description:
#Trunk Services as presented by a US PSTN Analog CO
#Hardware Supported:                  DID/120

# Signaling Formats:
#                Tx:     A=1              Battery Reversed
#                          A=0              Battery Normal
#
define
  # Define the required parameters for any trunk type
set type = 0x6000;              # type code is 60 (analog ) subcode is 00
set usedti = 0;                      # This trunk uses LC/RING events
# Alter the ring parameters to allow the /120 to work properly
set r_ird = 1;                        # Set debounce times to the minimum
set r_on = 1;                        # since this board measures
Loop-Battery
set r_off = 1;                      # reversal instead of a ring cycle

î/usr/vrs/types/.ttî 42 lines, 1500 characters
```

delete

/sci/maint/params

Action

Executes a function.

Function

Delete a trunk type.

Accessed By

Service account.

Description

The `delete` option deletes the specified trunk type. When you select this option, the SCI lists the currently defined trunk types and prompts you to select the type to delete.

See also

`new` (`/sci/maint/params` menu)

Example

This example deletes trunk type T1-E&M-Wink.

```
/sci/maint/params  delete
Current Trunk Type = 0
0            - DID
1            - DID-Pulse
2            - DID-Pulse-Wink
3            - FXS-T1-LoopStart
4            - LCO-LoopStart
5            - Loop-B
6            - LoopStart
7            - NS42
8            - T1-E&M
9            - T1-E&M-Wink
  Trunk Type = 9
Ready to Delete Trunk Type T1-E&M-Wink
Are you sure you wish to continue?
Current continue?  = yes
yes- Continue with operation.
no- Return to previous menu.
  continue?  = yes
```

syntax

/sci/maint/params

Action

Executes a function.

Function

Trunk type syntax checking.

Accessed By

Service account.

Description

The `syntax` option allows you check the syntax rules in a trunk type file. The `syntax` option finds only one bug at a time and reports it at the SCI command line. Execute this option until no more errors are encountered.

Example

```
/sci/maint/params>  syntax
Current Trunk Type = 0
0      - DID                   1      - DID-Pulse
2      - DID-Pulse-Wink        3      - DMS-100-ACD
4      - E1-R2                 5      - E1R2-16D
6      - ExtLineIntfc          7      - FXS-T1-LoopStart
8      - FXS-T1-LoopB          9      - HK-LoopStart
10     - INV-T1-E&M            11     - LCO-LoopStart
12     - Loop-B                13     - LoopStart
14     - NS42                  15     - E1-R2MF-CCITT
16     - T1-E&M                17     - T1-E&M-B
18     - T1-E&M-Wink           19     - T1-W-ANI-E&M
20     - T1-W-D-A-E&M          21     - T1-W-DNIS-E&M
22     - T1-W-E&M
        Trunk Type = 0
Finished processing trunk file /usr/vrs/types/did.tt
```

Appendix A: System prompts

Overview

The following system prompts are standard prompts provided with your MRS system. Symposium OPEN IVR applications rely on the presence of these prompts on your MRS.

Prompt number	Prompt
0	zero
1	one (masculine version)
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine
10	ten
11	eleven
12	twelve
13	thirteen

Prompt number	Prompt
14	fourteen
15	fifteen
16	sixteen
17	seventeen
18	eighteen
19	nineteen
20	twenty
21	thirty
22	forty
23	fifty
24	sixty
25	seventy
26	eighty
27	ninety
28	hundred
29	thousand
30	oh
31	star
32	pound
33	January
34	February
35	March
36	April
37	May

Prompt number	Prompt
38	June
39	July
40	August
41	September
42	October
43	November
44	December
45	on
46	at (singular)
47	a.m.
48	p.m.
49	The system storage is nearing capacity.
50	The system storage is at capacity.
51	We were unable to record this message.
52	You cannot record any new messages at this time.
53	Welcome to...
54	Hello.
55	Thank you. Goodbye.
56	That is an invalid response.
57	There are...
58	The number of messages waiting is...
59	At the tone, leave your message. When finished, press...
60	Your message has been delivered.
61	We were unable to deliver your message.

Prompt number	Prompt
62	No new messages may be recorded at this time.
63	There are no more messages waiting.
64	The operator will be with you momentarily.
65	You have paused the recording. To resume, press...
66	To save, press 1. To review, press 2. To delete, press 3.
67	To rerecord, press 1. To continue, press 2.
68	To review, press 1.
69	Please enter the system password.
70	This message was sent on...
71	Please enter your password.
72	Please hold.
73	That is an invalid password.
74	We are temporarily unable to access this message.
75	You have no messages waiting.
76	The newly recorded prompt is...
77	The message has been deleted.
78	million
79	billion
80	dollar
81	dollars
82	cent
83	cents
84	area code

Prompt number	Prompt
85	and
86	by
87	.2 seconds of silence
88	.4 seconds of silence
89	.8 seconds of silence
90	up
91	down
92	half
93	third
94	fourth
95	fifth
96	sixth
97	seventh
98	eighth
99	ninth
100	tenth
101	point
102	points
103	thirds
104	fourths
105	fifths
106	sixths
107	sevenths
108	eighths

Prompt number	Prompt
109	ninths
110	tenths
111	sixteenths
112	thirty-seconds
113	sixty-fourths
114	weekdays
115	Resume recording at the tone.
116	At the tone, leave your message.
117	Recording has been aborted. The message will not be saved.
118	When finished, press...
119	(Not used.)
120	(Not used.)
121	A
122	B
123	C
124	D
125	E
126	F
127	G
128	H
129	I
130	J
131	K
132	L

Prompt number	Prompt
133	M
134	N
135	O
136	P
137	Q
138	R
139	S
140	T
141	U
142	V
143	W
144	X
145	Y
146	Z
147	Sunday
148	Monday
149	Tuesday
150	Wednesday
151	Thursday
152	Friday
153	Saturday
154	twenty-one
155	twenty-two
156	twenty-three

Prompt number	Prompt
157	twenty-four
158	twenty-five
159	twenty-six
160	twenty-seven
161	twenty-eight
162	twenty-nine
163	thirty-one
164	thirty-two
165	thirty-three
166	thirty-four
167	thirty-five
168	thirty-six
169	thirty-seven
170	thirty-eight
171	thirty-nine
172	forty-one
173	forty-two
174	forty-three
175	forty-four
176	forty-five
177	forty-six
178	forty-seven
179	forty-eight
180	forty-nine

Prompt number	Prompt
181	fifty-one
182	fifty-two
183	fifty-three
184	fifty-four
185	fifty-five
186	fifty-six
187	fifty-seven
188	fifty-eight
189	fifty-nine
190	sixty-one
191	sixty-two
192	sixty-three
193	sixty-four
194	sixty-five
195	sixty-six
196	sixty-seven
197	sixty-eight
198	sixty-nine
199	seventy-one
200	seventy-two
201	seventy-three
202	seventy-four
203	seventy-five
204	seventy-six

Prompt number	Prompt
205	seventy-seven
206	seventy-eight
207	seventy-nine
208	eighty-one
209	eighty-two
210	eighty-three
211	eighty-four
212	eighty-five
213	eighty-six
214	eighty-seven
215	eighty-eight
216	eighty-nine
217	ninety-one
218	ninety-two
219	ninety-three
220	ninety-four
221	ninety-five
222	ninety-six
223	ninety-seven
224	ninety-eight
225	ninety-nine
226	hundreds
227	five hundred
228	thousands

Prompt number	Prompt
229	ten thousands
230	hundred thousands
231	ones
232	year
233	days
234	of
235	millions
236	billions
237	minus
238	negative
239	first
240	second
241	eleventh
242	twelfth
243	thirteenth
244	fourteenth
245	fifteenth
246	sixteenth
247	seventeenth
248	eighteenth
249	nineteenth
250	twentieth
251	thirtieth
252	percent

Prompt number	Prompt
253	left square bracket
254	backslash
255	return
256	enter
257	tab
258	backspace
259	delete
260	space
261	exclamation mark
262	period
263	ampersand
264	apostrophe
265	plus
266	comma
267	dash
268	divide
269	colon
270	semicolon
271	less than
272	equal
273	greater than
274	question mark
275	open parenthesis
276	close parenthesis

Prompt number	Prompt
277	asterisk
278	caret
279	underbar
280	single quote
281	double quote
282	right square bracket
283	tilde
284	pipe
285	open brace
286	close brace
287	dollar sign
288	at symbol
289	celsius
290	fahrenheit
291	degrees
292	above
293	below
294	centigrade
295	degree
296	hour
297	minute
298	one (feminine version — French, German, Italian, Portuguese, Spanish)
299	twenty-one (feminine version — French, Italian, Portuguese)

Prompt number	Prompt
300	eins (German)
301	one hundred (Portuguese, Spanish)
302	two hundred (Portuguese)
303	three hundred (Portuguese)
304	four hundred (Portuguese)
305	twenty-two (feminine version - Portuguese)
306	six-hundred (Portuguese)
307	seven hundred (Portuguese)
308	eight hundred (Portuguese)
309	nine hundred (Portuguese)
310	two (feminine) (Portuguese)
311	hours (Portuguese) o'clock (Japanese)
312	minutes (Portuguese)
313	months (Mandarin) month (Japanese)
314	over (Mandarin, Cantonese)
315	at (plural — Portuguese)
316	hundred million (Mandarin, Cantonese)
317	day (Japanese)
318	point (fraction — Mandarin, Cantonese, Japanese)
319	three thousand (Japanese)
320	eight thousand (Japanese)
321	1 day (Japanese)
322	2 day (Japanese)
323	3 day (Japanese)

Prompt number	Prompt
324	4 day (Japanese)
325	5 day (Japanese)
326	6 day (Japanese)
327	7 day (Japanese)
328	8 day (Japanese)
329	9 day (Japanese)
330	7 (Japanese)
331	9 (Japanese)
332	1 minute (Japanese)
333	6 minutes (Japanese)
334	8 minute (Japanese)
335	10 minute (Japanese)

Appendix B: Memory maps, I/O addresses, and interrupts overview

Overview

This appendix provides overview information on memory maps, I/O addresses, and interrupts for Symposium OPEN IVR 4.0 systems. For all settings, refer to the *Symposium OPEN IVR 4.0 Planning and Engineering Guide*.

Shared memory

Some of the modules that can be installed in your MRS use dip switches or jumpers for mapping modules into the system's shared memory. Others rely on the memory requirements to be specified at the time of device driver installation or software configuration. In either case, please be extremely cautious in selecting memory ranges for various installable options.

To select appropriate starting addresses for shared memory of a particular module, you must first know where any other memory mapped devices are installed, in addition to the addresses reserved for system memory and BIOS. Refer to the *Symposium OPEN IVR 4.0 Planning and Engineering Guide* for memory maps, I/O addresses, and interrupts.

System base I/O addresses and IRQ levels

Be sure to select base I/O addresses and IRQ (interrupt request) levels of all modules in the system so that there are no conflicts or overlaps. Firmware will not be downloaded to the modules unless the I/O and IRQ switches or jumpers you set match the I/O port base addresses in the configuration files.

Some modules may share the same IRQ. Consequently, for systems with more than one board sharing an interrupt, an interrupt terminator must be installed on the board farthest from the Interrupt Controller section of the CPU. To avoid hardware configuration errors and maximize the number of installable options, refer to the *Symposium OPEN IVR 4.0 Planning and Engineering Guide* for information on I/O addresses and IRQs.

Appendix C: ACD Logon/Logoff support

Overview

Trunks on your MRS can be configured to emulate an ACD agent for accepting calls from an Automatic CallDistribution (ACD) phone system. Configured trunks automatically log on to the ACD queue when enabled and log off from the queue when disabled or busied out. This appendix describes:

- ACD trunk features
- supported ACD trunk types
- ACD trunk type file parameters
- the ACD agent ID file
- configuring a trunk as an ACD trunk
- modifying the ACD trunk type file
- using Symposium OPEN IVR with ACD Logon/Logoff

ACD trunk features

A trunk configured as an ACD agent functions as follows:

- Each time the trunk is removed from service (that is, busied out) by the Application Processor (AP), the trunk performs the logoff sequence, logging out from the ACD queue.
- Each time the trunk is placed in service, it logs in to the ACD queue by initiating the logon sequence.

ACD Logon/Logoff restrictions

The following restrictions apply to the ACD log/logoff option:

- The trunk Logon/Logoff feature is configurable on a per four-channel basis.
- The ACD Logon/Logoff option is applicable to incoming ports only. It cannot be used for outgoing ports.

Supported ACD trunk types

ACD Logon/Logoff is implemented through customized trunk type files. Each of these trunk type files includes manufacturer-specific parameters. (The trunk type files, for your MRS, are resident in the Symposium OPEN IVR 4.0 software and are automatically updated during a system upgrade.)

MRS software currently supports these ACD trunk types:

- Northern Telecom Meridian ACD
- ROLM ACD
- AT&T G3 ACD
- DMS-100 ACD

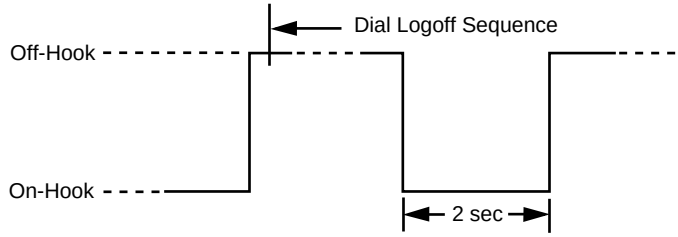
Meridian ACD features

The Meridian ACD logoff process follows these steps to log off an ACD configured trunk:

1. Places the trunk into an off-hook state.
2. Waits for a dial tone, then dials the SPRE Code 1 plus Function Code 97.
3. Places the trunk into an on-hook state and waits for two seconds.
4. Places the trunk into an off-hook state (busied out, removed from service).

After the trunk follows this sequence, it is then busied out and logged off from the ACD queue. Figure C-1 shows the timing diagram for the Meridian ACD logoff sequence.

Figure C-1: Meridian ACD logoff sequence timing diagram



Note: SPRE Code 1 and Function Code 97 are system defaults and may be changed if necessary (see “ACD trunk type file parameters” on page C-8).

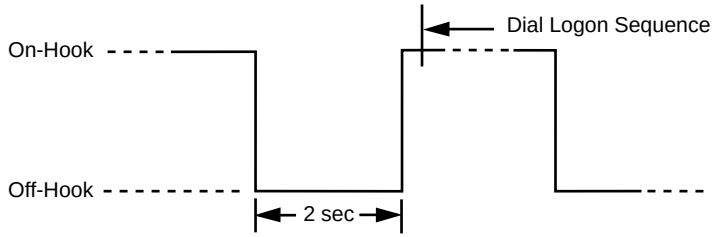
The Meridian ACD logon process follows these steps to log on to an ACD configured trunk:

1. Places the trunk in an off-hook state and waits for two seconds.
2. Places the trunk in an on-hook state.
3. Waits for a dial tone, then dials the SPRE Code 1 plus Function Code 97 plus the agent ID.
4. Places the trunk into an off-hook state (idle).

   Note: The agent ID is an eight-digit number equal to the base agent ID plus the trunk number.

At this time, the trunk is logged on and ACD will start routing calls to this trunk. Figure C-1 shows the timing diagram for the Meridian ACD logon sequence.

Figure C-2: Meridian ACD logon sequence timing diagram



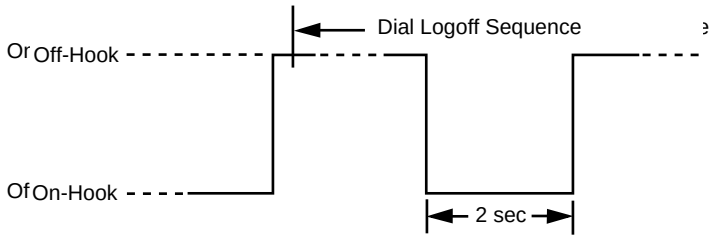
ROLM ACD features

The ROLM ACD logoff process follows these steps to log off an ACD configured trunk:

1. Places the trunk in an off-hook state.
2. Waits for a dial tone, then dials the logoff code (#0).
3. Places the trunk in an on-hook state and waits for two seconds.
4. Places the trunk in an off-hook state.

After the trunk follows this sequence, it is busied out and logged off from the ACD queue. Figure C-3 shows the timing diagram for the ROLM logoff sequence.

Figure C-3: ROLM ACD logoff sequence timing diagram



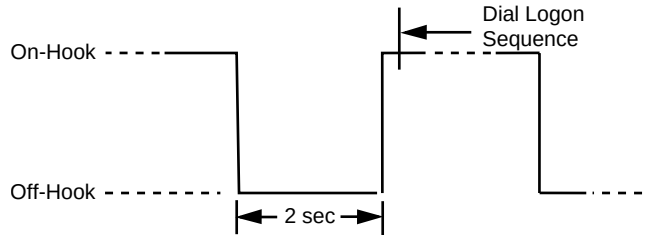
The ROLM ACD logon process follows these steps to log onto an ACD configured trunk:

1. The trunk is placed in an off-hook state and waits for two seconds.
2. The trunk is placed in an on-hook state.
3. The trunk waits for a dial tone, then dials the logon code (##0).
4. The trunk is placed in an off-hook state.

After this sequence takes place, the trunk is placed in service and logged on to the ACD queue. Figure C-4 shows a timing diagram for the ROLM ACD logon sequence.

> ***Note:*** The ROLM ACD configured trunk goes through the logon process each time it hangs up during an application.

Figure C-4: ROLM ACD logon sequence timing diagram



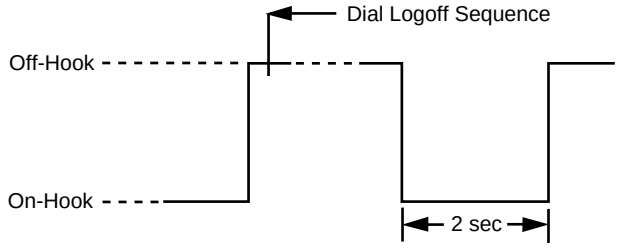
AT&T G3 ACD features

The AT&T G3 ACD logoff process follows these steps to log off an ACD configured trunk:

1. Places the trunk in an off-hook state.
2. Waits for a dial tone, then dials the logoff code (#81).
3. Places the trunk in an on-hook state and waits for two seconds.
4. Places the trunk in an off-hook state.

After the trunk follows this sequence, it is busied out and logged off from the ACD queue. Figure C-5 shows the timing diagram for the AT&T logoff sequence.

Figure C-5: AT&T G3 ACD logoff sequence timing diagram



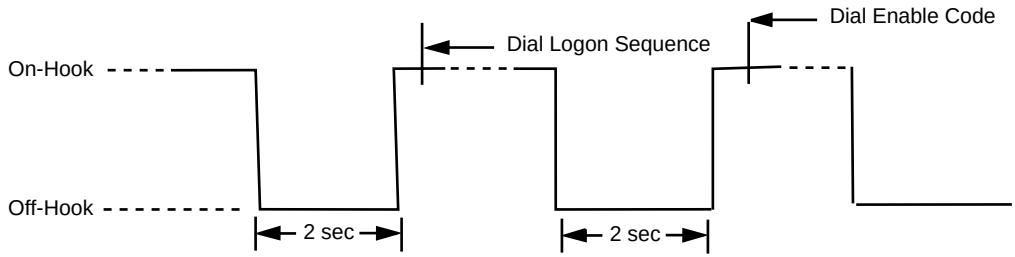
The AT&T G3 ACD logon process follows these steps to log on an ACD configured trunk:

1. The trunk is placed in an off-hook state and waits two seconds.
2. The trunk is placed in an on-hook state. The trunk waits for a dial tone, then dials the logon code (#80), followed by an agent ID.
3. The trunk is placed in an off-hook state and waits two seconds.
4. The trunk is placed in an on-hook state. Then the trunk dials the enable code (#86) to allow incoming calls access to the trunk.
5. The trunk is placed in an off-hook state.

After this sequence, the trunk is logged on to the ACD queue. Figure C-6 shows a timing diagram for the AT&T G3 ACD logon sequence.

Note: The AT&T G3 ACD configured trunk goes through the logon process each time it hangs up during an application.

Figure C-6: AT&T G3 ACD logon sequence timing diagram



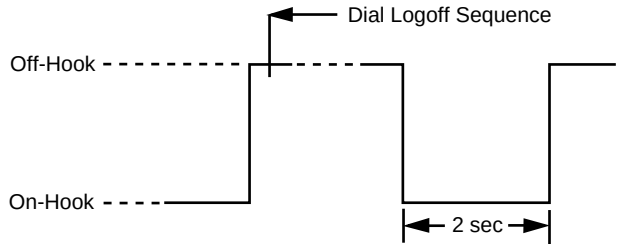
DMS-100 ACD features

The DMS-100 ACD logoff process follows these steps to log off an ACD configured trunk:

1. Places the trunk in an off-hook state.
2. Waits for a dial tone, then dials the logoff code (#95).
3. Places the trunk in an on-hook state and waits for two seconds.
4. Places the trunk in an off-hook state.

After the trunk follows this sequence, it is busied out and logged off from the ACD queue. Figure C-7 shows the timing diagram for the DMS-100 logoff sequence.

Figure C-7: DMS-100 ACD logoff sequence timing diagram

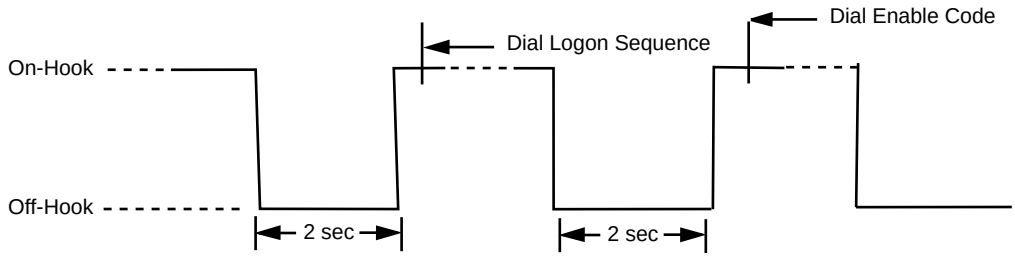


The DMS-100 ACD logon process follows these steps to log on an ACD configured trunk:

1. The trunk is placed in an off-hook state and waits two seconds.
2. The trunk is placed in an on-hook state. The trunk waits for a dial tone, then dials the logon code (#94), followed by an agent ID.
3. The trunk is placed in an off-hook state and waits two seconds.
4. The trunk is placed in an on-hook state. Then the trunk dials the enable code (#84) to allow incoming calls access to the trunk.
5. The trunk is placed in an off-hook state.

After this sequence, the trunk is placed in service and logged on to the ACD queue. Figure C-8 shows a timing diagram for the DMS-100 ACD logon sequence.

Figure C-8: DMS-100 ACD logon sequence timing diagram



ACD trunk type file parameters

Each ACD-agent trunk type file contains these parameters:

acdspre

- specifies the SPRE code (up to eight hexadecimal digits)

acdfcon

- specifies the logon code

acdfcoff

- specifies the logoff code

acdgroup

- specifies a base agent ID for identifying ACD agents (up to four hexadecimal digits)

acdfcenb

- enables an agent position after the port is already logged on

The `acdspre` parameter specifies the SPRE code and can be up to eight hexadecimal digits in long. If this parameter is set to 0 or not included in the trunk type file, the MRS generates a one- second pause.

The `acdfcon` and `acdfoff` parameters may contain up to eight characters. If set to 0 or not included, the parameter is ignored.

The four-digit base agent ID is specified by the `acdgroup` parameter. The default is 1000. The sum of the channel number and the base agent ID identifies the agent ID. For example, using the default base agent ID (1000), the logon dialing sequence for trunk 0 would be 1+97+1000, and for trunk 27, would be 1+97+1027.

If the base agent is set to 0 or not specified in the trunk type file, the `acdgroup` parameter is ignored. If the base agent is set to 1 for trunk 0, it produces the agent code 0xAAA1 (dials DTMF 0001). To insert a pause in any of the dialed strings, enter the characters D, E, or F. The pause is one second. Table C-1 shows the DTMF digits represented by ASCII characters.

Table C-1: DTMF digits and corresponding ASCII characters (leading zeros are ignored)

DTMF digit	ASCII character
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	A
*	B
#	C
pause	D, E, F, 0

When sequential ACD agent IDs are not available, or when the ID must consist of more than four digits, you can specify the agent IDs in the `agents` file. This file identifies nonsequential agents ID up to eight digits long. To use the `agents` file, the `acdgroup` parameter must be set to 0xFFF, indicating that the agent IDs are to be retrieved from the `agents` file. This file can be viewed and edited (see "The ACD agent ID file" on page C-10).

Sometimes it is necessary to enable an agent position after the port is already logged on to allow incoming calls. To do this, you must specify the `acdfcenb` parameter ("function code enable") in the trunk type file (see "Modifying the ACD trunk type file" on page C-11). The enable code will then be dialed, preceded by the SPRE code.

> ***Note:*** The dial enable code (`acdfcenb` parameter) is used during the logon sequence for AT&T G3 and DMS-100 ACD trunks.

Table C-2 lists the default parameter values for the available ACD trunk types.

Table C-2: Default ACD parameter values

		ACD type		
Parameter	**Meridian**	**ROLM**	**AT&T G3**	**DMS-100**
acdspre	11	# (0xC)	#(0xC)	#
acdfcon	97	#0 (0xCA)	80	94
acdfcoff	97	0 (0xA)	81	95
acdgroup	1000	1000	1000	1000
acdfcenb	N/A	N/A	86	84

Note: For other trunk type file parameters, see Appendix D, "Trunk type file parameters."

The ACD agent ID file

Normally, agent IDs must be contiguous. However, if only nonsequential agent IDs are available or you need more than the default four digits (up to eight digits) to identify agents, you can use the `agents` file stored on your MRS. To access this file, set the `acdgroup` parameter in the trunk type file to `0xFFF`.

To view, add, or edit ACD agent IDs, select the `agent_id` option from the `/sci/files` menu. The SCI opens the file using the vi editor. By default this `agents` file is empty.

Each line in the file specifies a single agent entry. Use the following syntax:

```
<channel> <agent_id>
```

where ***<channel>*** is a two-digit decimal number identifying the associated channel, and ***<agent_id>*** is the decimal identifier for the agent (up to eight digits). Separate the channel and agent ID with white space (tab or space).

The following example shows the agent IDs assigned to channels 0–4.

```
/sci/files>  agent_id
00 10000000
01 10000010
02 10000020
03 10000030
04 10000040

"/usr/vrs/parms/agents"
```

If the `acdgroup` parameter were set to 0xFFF, agent IDs would be retrieved from the `agents` file. The agent ID associated with channel 3 would be 10000030, whereas if four-digit sequential agent IDs were available and the `acdgroup` parameter was set to 0x1000, the agent ID associated with channel 3 would be 1003.

Configuring a trunk as an ACD agent

The ACD Logon/Logoff option is installed on your MRS when the OPEN IVR Release 4.0 software is installed. To reconfigure a trunk as an ACD agent, follow these steps.

1. At the SCI Main Menu, select the `config` option.
2. From `/sci/config`, select the `trunk` option.
3. At the prompt, specify the trunk group to be configured as an ACD trunk. (The ACD Logon/Logoff feature is configurable on a per-four-channel basis and can be applied only to incoming ports.)
4. At the prompt, type **`edit`** and press <Enter>.
5. Select the appropriate ACD trunk type (NT, ROLM, ATT G3, or DMS-100).
6. Select the `done` option to return to the SCI main menu.
7. Select the `reset` option from the SCI main menu to allow the new configuration to take effect.

Modifying the ACD trunk type file

If necessary, you can modify the default values for ACD Logon/Logoff dialing parameters contained in the ACD trunk type file. Table C-3 lists the trunk type file associated with each of the available ACD trunk types.

Table C-3: ACD trunk type file names

ACD trunk type	Trunk type name
ACD	m1-Xacd (where X is a variable)
Line side ACD (M1 only)	nt1-Xacd (where X is a variable)
ROLM ACD	rolmacdlog
AT&T G3 ACD	attg3fxsacd
DMS-100 ACD	dms100

Editing the trunk type file

To edit the trunk type file, follow these steps.

CAUTION

Risk of service interruption

Incorrect entries in the trunk configuration files may completely disable those trunks. Do not make changes unless you are sure of your entries.

1. From the SCI main menu, type **`maint`**.

   The maintenance menu appears.

2. From the maintenance menu, type **`param`**.

   The maintenance parameters menu appears.

3. Edit the corresponding trunk type file by typing **`edit`** and selecting the corresponding trunk type.

   You will automatically be placed in the vi editor at the beginning of the file.

Using Symposium OPEN IVR with ACD Logon/Logoff

The ACD Logon/Logoff option causes the following events to occur for ACD configured trunks interacting with Symposium OPEN IVR:

- When Symposium OPEN IVR starts, it automatically busies out all available trunks on the system, which forces all ACD configured trunks to log off.
- When the application starts, Symposium OPEN IVR unbusies all trunks running under control of the application, and all trunks configured as ACD agents go through the logon sequence. No calls are routed from the ACD to the trunks on the MRS until these trunks log on.

  Note: Once Symposium OPEN IVR starts and the ACD logoff process begins, the application may not start until the logoff process is complete. Also, do not run embedded system diagnostics while trunks are in a busied-out state.

To use the ACD Logon option with Symposium OPEN IVR, you must modify the Symposium OPEN IVR `/u/nortel/startup` file. Specify the following command line parameter in the vip:

vip ***-a*** **<*time-out*>**

where ***`-a`*** tells the vip to insert a delay between busying and unbusying trunks when Symposium OPEN IVR and the application start. ***`time-out`*** represents the actual delay in seconds.

For example, specifying **`vip -a 30`** causes the vip to wait for 30 seconds before allowing the trunks to be used by the application (unbusied). If the `time-out` value is set to 0, then the vip defaults to 30 seconds. If the **`-a`** switch is not specified, the vip provides no delay between busying and unbusying trunks on the MRS. The recommended time-out value to use with the ACD log option is 30 seconds.

Note: To use the ACD option, the `/u/nortel/startup` file (which contains the execute line for all Symposium OPEN IVR processes) must be modified to address vip delay requirements. If the user subsequently runs the System Configuration Management screen to create a new system configuration, the `/u/nortel/startup` file must be edited to add the -a switch to the vip.

Appendix D: Trunk type file parameters

Building Trunk Type Files

Trunk Type Strategy

A number of trunk type files, each containing the definitions for a large number of related trunk types, is shipped with the system. When the system is configured, each group of four channels in the system is assigned a trunk type. During normal operation, the definition of the trunk type specified for a channel as specified in a trunk type file, determines the behavior of that channel.

Trunk Type Components

A trunk type file is composed of one or more trunk type definitions plus comments. Any characters following a # will be ignored up to the next end-of-line.

A trunk type definition is composed of parameter settings and a state machine definition.

Setting Parameters

```
set param1 = value1;
```

Inheriting Properties

```
inherit General-Trunk-Type-Name;
```

A Trunk Type Definition

```
#
#     Description of this trunk type
#
define Trunk-Type-Name
#    inherit from a more general trunk type
inherit General-Trunk-Type-Name;

#    Set parameters specific to this trunk type
set param1 = value1;
       ...
set paramN = valueN;
#    Define the start state and state machine for
this type
start InitialState;
state  InitialState [ABH] {  event ( action_list; )
NextState;
                                        ...
                                   event  ( action_list;
) NextState; };
            ...

state LastState  [ABH]     { event ( action_list; )
Next State;
                                        ...
                                   event  ( action_list;
) NextState; };
end
```

Parameters

All parameters are system defined. The user cannot create their own parameters. All parameters have a default value. If the value of a parameter is not explicitly set the default value will be used.

The format of a parameter entry is:

Parameter Name **Default Value** **[Units]** **Dialogics equivalent (if any)**

RUN_TIME or BOOT_TIME settable

Parameter description

Note: Parameters marked as BOOT_TIME* can be set at run time, although it is not recommended since they may reflect special hardware configurations. The results may be unpredictable.

Trunk general parameters

type

0x0000 **[#]** **none**

BOOT_TIME

Specifies the numeric trunk type. The upper two hex digits (Major Type) are the type code returned in a trunk type report and the lower two hex digits (Minor Type) are provided to allow uniqueness between different trunk types of the same general class.

Major Type: 00 Loopstart
20 Not currently defined
40 Not currently defined
60 DID
80 E&M

usedti

0 **[0,1]** **none**

BOOT_TIME

Specifies whether this trunk type uses AB signalling bits directly for hook state transitions or whether the RING/LC events are used (0=RING/LC events, 1=AB bits). This is not the same as whether the trunk type is a T-1 interface. A trunk type can use a T-1 interface and still use the RING/LC event scheme (the reverse, however, is not true).

allowmf

1 **[#]** **none**

BOOT_TIME*

Specifies whether to allow MF capabilities.

allowdp

0 **[0,1]** **none**

BOOT_TIME*

Specifies whether to allow Dial pulse capabilities. Dial pulse capabilities are currently only supported using a DID network interface card.

usetones

0 **[0,1]** **none**

RUN_TIME

Specifies whether to allow tone detection. This parameter must be set to 0 for trunk types designed for use with 4-port cards.

boardtype

0 **[0,1]** **none**

BOOT_TIME

Specifies whether characteristics of an A series or B series board are to be used.
D/121A boardtype = 0 (default
D/121B boardtype = 1

setmode

1 **[0,1]** **none**

RUN_TIME

Specifies whether digit mode control should be handled by the MRS (if internal DNIS and ANI collection is being used) or by OPEN IVR.

playgain

0 **[dB]** **dx_adjsv**

RUN_TIME

Specifies the gain adjustment to use when playing prompts and tones. This parameter is rounded down to a 3dB increment. Valid values must be in the range of -30dB to +9dB. This parameter has no effect on 4-port cards.

delaylen

2 **[sec]** **none**

RUN_TIME

Specifies the number of seconds to delay when arbitrary delays are required during the processing of a trunk type (this parameter is used by the doDELAY action).

ttsqueue

0 **[#]** **none**

BOOT_TIME*

Specifies the number of seconds to queue a channel while waiting for a Text-to-Speech resource.

usespeed

10 **[%]** **none**

BOOT_TIME

Specifies whether speed control will be allowed (may only be used with D/121/B boards) and when allowed, specifies the size of the step in using the fastforward feature.
When usespeed = 0, the fastforward feature is completely disabled
When usespeed = x, where x is a number, each increment of the fast forward will make a jump by x%. The maximum speed that can be used is 50%. The default is 10%.

boardtype

0 **[0,1]** **none**

BOOT_TIME

Specifies whether characteristics of an A series or B series board are to be used.
D/121A boardtype = 0 (default
D/121B boardtype = 1

callperf

0 **[#]** **none**

RUN_TIME

Specifies whether or not to use the CallPerfect variant of Call Analysis. (Currently removed)

usecdbits

0 **[#]** **none**

BOOT_TIME

Specifies which Spring card is being used:

0 = D/121A
1 = D/121B

srecact

0 **[0,1]** **none**

RUN_TIME

Specifies the behavior that the dcm will take when silence is detected during a record (as determined by the silence detection threshold set by the recsil parameter). If this parameter is equal to 1, then both and event eRECSIL will be generated in the trunk type file (which may be interpreted as a hang-up, depending on the trunk type) and the current record will be terminated. If this parameter is set to zero, then only the event eRECSIL will be generated.

recsil

0 **[sec]** **none**

RUN_TIME

Specifies the detection threshold for a certain amount of silence in seconds (0 = disabled). When the threshold is reached, the eRECSIL event will be generated in the trunk type (this may be used for some actions).

ns42

0 **[#]** **none**

BOOT_TIME*

Specifies whether this is a D/42-NS board for connection to the Norstar KSU. When using Norstar trunk file parameter, /cdly must be set to 1 to allow detection of the disconnect in the middle of the transfer to another extension.

hasadsi

0 **[#]** **none**

BOOT_TIME*

Specifies whether ADSI will be used by this trunk file.

useagc

1 **[#]** **none**

RUN_TIME

Specifies whether AGC (Automatic Gain Control) is enabled (1) or disabled (0). This is useful for recording the samples of the progress tones from the telephone network without adding any additional distortion to the signal. Also useful to record speech samples for detailed analysis like speech recognition (sometimes AGC distorts the signal and causes serious degradation of the technologies such as Speech Recognition).

usesit

1 **[#]** **none**

RUN_TIME

Specifies whether detection of SIT (tri-tone) sequences is enabled (1) or disabled (0). If detection of SIT tones is disabled, then all SIT tones will be reported as an answer.

usepamd

0 **[#]**

RUN_TIME

Specifies whether Positive Answering Machine Detection feature is enabled (1) or disabled (0).

Note: Use of the PAMD may slow down the return of the PVD reply because it takes longer to differentiate between an answer and an answering machine. If PAMD is disabled, the answering machines will be reported as PVD (positive voice detections).

Hookstate control parameters

pulselen **25** **[10ms]** **none**

RUN_TIME

Duration for a generated metering pulse.

flashlen **50** **[10ms]** **none**

RUN_TIME

Duration for a generated flash hook in a dial command (dial "&") or doFLASH action.

flashlen2 **50** **[10ms]** **none**

RUN_TIME

Duration for a generated flash hook from the 7F command.

minoffhk **50** **[10ms]** **DXBD_MINOFFHKTM**

BOOT_TIME

Minimum guard interval between going offhook and going back onhook.

winklen **40** **[10ms]** **DXCH_WINKLEN**

BOOT_TIME

Duration for a generated wink.

winkdly **5** **[10ms]** **DXCH_WINKDLY**

BOOT_TIME

Minimum delay required after ring detection before a wink can be generated.

offhdly

5 **[10ms]** **DXBD_OFFHDLY**

BOOT_TIME

Delay after changing hookstate before reporting completion.

Only applies if usedti=0.

flashmsk

0xF **[#]** **none**

RUN_TIME

Mask to be XORed with the current value of the ABCD bits during a hookflash (A is the least significant bit). This is used in FXS-T1 trunk types.

winkmsk

0xF **[#]** **none**

RUN_TIME

Mask to be XORed with the current value of the ABCD bits during a wink (A is the least significant bit).

pulsemsk

0xF **[#]** **none**

RUN_TIME

Mask to be XORed with the current value of the ABCD bits during a metering pulse (A is the least significant bit).

Hookstate detection parameters

minlcoff

35 **[10ms]** **DXBD_MINLCOFF**

BOOT_TIME

Minimum duration for a valid Loop Current Off event. Only applies if usedti=0.

r_edge

1 **[1 or 2]** **DXBD_R_EDGE**

BOOT_TIME

Edge of ring cycle to report detection on (1 = Leading Edge, 2 = Trailing Edge).

r_ird

80 **[100ms]** **DXBD_R_IRD**

BOOT_TIME

Maximum length of the Ring-Off period in a ring cycle. Only applies if usedti=0.

r_off

5 **[sec]** **DXBD_R_OFF**

BOOT_TIME

Maximum length of the Ring-On period in a ring cycle. Only applies if usedti=0.

ringcnt

1 **[#]** **DXCH_RINGCNT**

BOOT_TIME

Number of ring cycles to wait before reporting ringing event. Only applies if usedti=0.

Indialing general parameters

calltype

0 **[0,1]** **none**

RUN_TIME

Specifies the type of digits to expect during normal call processing (0 = DTMF, 1 = MF).

dnistype

0 **[0,1]** **none**

RUN_TIME

Specifies the type of digits to expect when collecting DNIS information.

dnisnum

0 **[0...15]** **none**

RUN_TIME

Specifies the number of digits to expect when collecting DNIS information.

anitype

0 **[0,1]** **none**

RUN_TIME

Specifies the type of digits to expect when collecting ANI information (0 = DMTF, 1 = MF).

aninum

0 **[0...15]** **none**

RUN_TIME

Specifies the number of digits to expect when collecting ANI information.

pdtmo

1 **[sec]** **none**

RUN_TIME

Specifies the pre-dial time-out for collecting DNIS or ANI digits.

idtmo

1 **[sec]** **none**

RUN_TIME

Specifies the inter-digit time-out for collecting DNIS or ANI digits.

Indialing DTMF parameters

dtmftlk

1 **[10MS]** **DXCH_DTMFTLK**

BOOT_TIME

Additional minimum debounce time (in excess of 40ms) of a DTMF digit during playing.

dtmfdeb

0 **[10ms]** **DXCH_DTMFDEB**

BOOT_TIME

Additional minimum debounce time (in excess of 40ms) of a DTMF digit during recording.

dflags

0 **[0 or 1]** **DXCH_DFLAGS**

BOOT_TIME

Edge of digit to report detection on (0 = Leading Edge, 1 = Trailing Edge).

Indialing MF parameters

mfminon **0** **[10MS]** **DXBD_MFMINON**

BOOT_TIME

Minimum duration (in excess of 40ms) of an MF digit.

kptype **2** **[0,2]** **DXCH_MFMODE**

BOOT_TIME

Minimum duration for a KP digit (0 = 40ms, 2 = 65ms).

Indialing Dial Pulse parameters

minbreak **2** **[10ms]** **DXBD_MINPDOFF**

BOOT_TIME

Minimum duration of a break pulse.

minmake **2** **[10ms]** **DXBD_MINPDON**

BOOT_TIME

Maximum duration of a make pulse.

maxbreak **35** **[10ms]** **DXBD_MAXPDOFF**

BOOT_TIME

Maximum duration of a break pulse. This parameter should be less than or equal to minlcoff.

maxmake

25 **[10ms]** **DXBD_MINIPD**

BOOT_TIME

Maximum duration of a make pulse before it is considered an interdigit make interval.

Outdialing general parameters

dialtype

0 **[0,1]** **none**

RUN_TIME

Specifies the number of digits to use when outdialing (0 = DTMF, 1 = MF).

dialdly

25 **[10ms]** **DXBD_PAUSETM**

BOOT_TIME

Duration of the pre-dial delay after detecting the network. Also, the duration of the delay caused by each comma in the dial string.

netchk

6 **[sec]** **none**

RUN_TIME

Maximum amount of time to wait for the network prior to dialing.

Outdialing DTMF parameters

ttdata **9** **[10ms]** **DXBD_TTDATA**

BOOT_TIME

Specifies the duration of the dialed DTMF digits.

tt_idd **11** **[10ms]** **DXBD_TT_IDD**

BOOT_TIME

Specifies the duration of the inter-digit pause when dialing DTMF digits.

Outdialing MF parameters

mftone **9** **[10ms]** **DXBD_MFTONE**

BOOT_TIME

Duration of the dialed MF digits.

mfdelay **11** **[10ms]** **DXBD_MFDELAY**

BOOT_TIME

Duration of the inter-digit pause when dialing MF digits.

kplength **10** **[10ms]** **DXBD_MFLKPTONE**

BOOT_TIME

Duration of a generated KP digit.

Outdialing Dial Pulse parameters

breaklen **4** **[10ms]** **DXBD_P_BK**

BOOT_TIME

Duration of a dialed break pulse.

makelen **6** **[10ms]** **DXBD_P_MK**

BOOT_TIME

Duration of a dialed make pulse.

dpidd **25** **[10ms]** **DXBD_P_IDD**

BOOT_TIME

Duration of an inter-digit make interval.

Outdialing call analysis parameters — ring/busy detection

stdely **25** **[10ms]** **cap- > stdely**

RUN_TIME

Delay to wait after dialing digits before beginning the call analysis.

cnosig **1775** **[10ms]** **cap- > cnosig**

RUN_TIME

Maximum amount of time to wait for any energy before returning a pre-ring time-out.

logItch

10 **[10ms]** **cap- >logItch**

RUN_TIME

Maximum low period to deglitch (ignore).

higItch

20 **[10ms]** **cap- >higItch**

RUN_TIME

Maximum high period to deglitch (ignore).

cnosil

250 **[10ms]** **cap- > cnosil**

RUN_TIME

Maximum duration of any period of energy before it is considered an answer. This value should always be larger than the maximum expected high period for a ring or busy cycle. If not, these tones will not detect properly.

slowrmax

90 **[10ms]** **cap- >lo1rmax**

RUN_TIME

Maximum short low period for rings.

llowrmin

225 **[10ms]** **cap- >lo2rmin**

RUN_TIME

Minimum long low period for rings.

llowrmax

700 **[10ms]** **cap- > alowmax, cap- > blowmax**

RUN_TIME

Maximum long low period for rings.

slowbmax **90** **[10ms]** **cap- >lo1bmax**

RUN_TIME

Maximum short low period for busy.

llowbmax **90** **[10ms]** **cap- >l2bmax**

RUN_TIME

Maximum long low period for busy.

hibmax **90** **[10ms]** **cap- > hi1bmax**

RUN_TIME

Maximum high period for busy.

nbrbeg **1** **[#]** **cap- >nbrbeg**

RUN_TIME

Number of the ring cycle to begin cadence analysis on (for stuttering rings).

slowrtol **30** **[%]** **cap- >lo1tola**
cap- >lo1tolb

RUN_TIME

Tolerance for short low period rings.

llowrtol **30** **[%]** **cap- >lo2tola**
cap- >lo2tolb

RUN_TIME

Tolerance for long low periods for rings.

hirtol

30 **[%]** **cap- >hi1tola**
cap- >hi1tolb

RUN_TIME

Tolerance for first high periods for rings.

Outdialing call analysis parameters — positive voice detection

lcdly

6000 **[10ms]** **cap- > lcdly**

RUN_TIME

Delay after dialing before beginning the check for loop current transient drops as a valid answer.

maxansr

25 **[10ms]** **cap- > maxansr**

RUN_TIME

Minimum duration of energy required for a valid answer.

ansrdgl

600 **[10ms]** **cap- >ansrdgl**

RUN_TIME

maximum amount of time to wait for energy after ringing has stopped before returning post-ring time-out. A value of -1 in this field disables answer detection (an ANSWER is returned immediately after it has been determined that ringing has stopped).

pamdspd

1 **[#]** **cap- >**

RUN_TIME

0 = quick, 1 = full, PAMD analysis (future releases).

pamdqual

11 **[#]** **cap- >**

RUN_TIME

Which qualification template to use (future releases).

pamdfail

400 **[10ms]** **cap- >**

RUN_TIME

Length of time after the first ringback before returning no answer.

pamdring

190 **[10ms]** **cap- >**

RUN_TIME

Maximum inter-ring delay.

Tone detection parameters

dialf1

350 **[Hz}** **dx_bliddt()**

RUN_TIME

First tone frequency for dial tone.

dialf2

440 **[Hz]** **dx_bliddt()**

RUN_TIME

Second tone frequency for dial tone. If the dial tone is a single frequency tone, specify zero in this field.

dialftol

5 **[%]** **dx_blddt()**

RUN_TIME

Tolerance for frequency elements.

dialmin

200 **[10ms]** **dx_blddt()**

RUN_TIME

Minimum dial tone must be present to be considered valid.

sdialf1

0 **[Hz]** **dx_blddt()**

RUN_TIME

First tone frequency for second dial tone.

sdialf2

0 **[Hz]** **dx_blddt()**

RUN_TIME

Second tone frequency for second dial tone. If the dial tone is a single frequency tone, specify zero in this field.

sdialftol

0 **[%]** **dx_blddt()**

RUN_TIME

Tolerances for frequency elements.

sdialmin

0 **[10ms]** **dx_blddt()**

RUN_TIME

Minimum time second dial tone must be present to be valid.

busyf1 **480** **[Hz]** **dx_blddtcad()**

RUN_TIME

First tone frequency for busy tone.

busyf2 **620** **[Hz]** **dx_blddtcad()**

RUN_TIME

Second tone frequency for busy tone. If busy tone is a single frequency tone, specify zero in this field.

busyftol **5** **[%]** **dx_blddtcad()**

RUN_TIME

Tolerances for frequency elements.

busyon **50** **[10ms]** **dx_blddtcad()**

RUN_TIME

Expected on cadence for busy tone.

busyoff **50** **[10ms]** **dx_blddtcad()**

RUN_TIME

Expected off cadence for busy tone.

busyctol **10** **[%]** **dx_blddtcad()**

RUN_TIME

Tolerance for cadence components.

busyrpt **2** **[#]** **dx_blddtcad()**

RUN_TIME

Specifies number of ring cycles required for proper detection of the network busy signal.

fax1fl **1100** **[Hz]** **dx_blddtcad()**

RUN_TIME

First tone frequency for fax1 tone. If this parameter is set to equal 0, the template is removed.

fax1f2 **0** **[Hz]** **dx_blddtcad()**

RUN_TIME

Second tone frequency for fax1 tone. If the busy tone is a single frequency tone, specify zero in this field.

fax1ftol **8** **[%]** **dx_blddtcad()**

RUN_TIME

Tolerances for frequency elements.

fax1min **10** **[10ms]** **dx_blddt()**

RUN_TIME

Minimum time for proper detection of the fax1 tone.

fax2f1 **2100** **[Hz]** **dx_blddtcad()**

RUN_TIME

First tone frequency for the fax2 tone. If this parameter is set to equal 0, the template is removed.

fax2f2

0 **[Hz]** **dx_blddtcad()**

RUN_TIME

Second tone frequency for fax2 tone. If the busy tone is a single frequency tone, specify zero in this field.

fax2ftol

20 **[%]** **dx_blddtcad()**

RUN_TIME

Tolerances for frequency elements.

fax2min

20 **[10ms]** **dx_blddt()**

RUN_TIME

Minimum time for proper detection of the fax2 tone.

uppert1

1000 **[Hz]** **none**

RUN_TIME

Upper boundary for detecting the SIT tone.

lowert1

900 **[Hz]** **none**

RUN_TIME

Lower boundary for detecting the SIT tone.

timet1

5 **[10ms]** **none**

RUN_TIME

Minimum time for the proper detection of the SIT tone.

disc1f1 **0** **[Hz]** **none**

RUN_TIME

Disconnect tone 1 frequency, 1 component.

disc1f2 **0** **[Hz]** **none**

RUN_TIME

Disconnect tone 1 frequency, 2 component.

disc1ftol **10** **[%]** **none**

RUN_TIME

Frequency tolerance.

disc1min **200** **[%]** **none**

RUN_TIME

Minimum duration requirements.

disc2f1 **0** **[Hz]** **none**

RUN_TIME

Disconnect tone 2 frequency, 1 component.

disc2f2 **0** **[Hz]** **none**

RUN_TIME

Disconnect tone 2 frequency, 2 component.

disc2ftol

10 **[%]** **none**

RUN_TIME

Frequency tolerance.

disc2min

200 **[Hz]** **none**

RUN_TIME

Minimum duration requirements.

ACD Logon/Logoff parameters

For additional information on ACD Logon/Logoff trunk type file parameters, see Appendix C, “ACD Logon/Logoff support."

acdspre

0x1 **[Dig]** **none**

BOOT_TIME*

ACD SPRE code to use when dialing, as represented in hex-encoded DTMF.

acdfcenb

0x84 **[Dig]** **none**

BOOT_TIME*

ACD Enable function code to use when dialing, as represented in hex-encoded DTMF.

acdfcon

0x97 **[Dig]** **none**

BOOT_TIME*

ACD Logon function code to use when dialing, as represented in hex-encoded DTMF.

acdfcoff

0x97 **[Dig]** **none**

BOOT_TIME*

ACD Logoff function code to use when dfialing, as represented in hex-encoded DTMF.

acdgroup

1000 **[Dig]** **none**

BOOT_TIME*

ACD Agent group base to use when dialing, as represented in BCD-encoded DTMF. The agent ID code will be equal to the base plus an offset that is equal to the trunk number. For example, if base = 1000, then trunk 34 will have agent ID 1034. When this number is equal to 0000, this parameter is not dialed.

If the acdgroup is a number 0xFFFF, then the agent IDs will be found in the file called /usr/vrs/exe/agents. In that file, each trunk will have a four-digit ID. If the file does not exist, the default will be zero. A zero means that no agent code will be dialed.

ADSI parameters

adsif1

2130 **[Hz]** **none**

RUN_TIME

ADSI frequency 1.

adsif2

2750 **[Hz]** **none**

RUN_TIME

ADSI frequency 2.

adsia1

-15 **[dB]** **none**

RUN_TIME

ADSI frequency 1 amplitude.

adsia2 -15 [dB] none

RUN_TIME

ADSI frequency 2 amplitude.

adsion [10ms] none

RUN_TIME

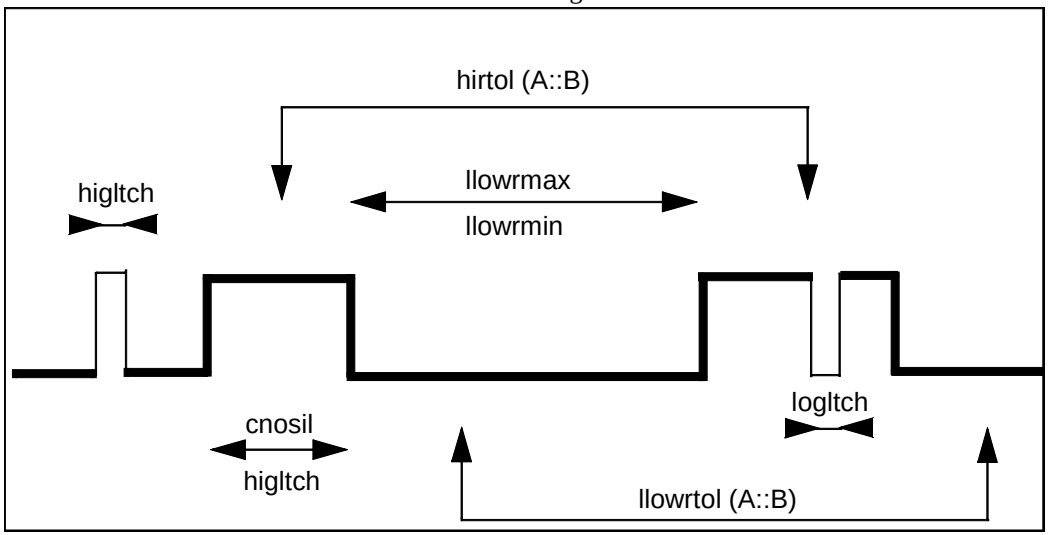
Length of the ADSI tone in 10 millisecond units.

More about Call Progress Parameters

Single cycle ring detection

Durations	higltch	minimum allowable high cycle for a ring OR busy
	logltch	minimum allowable low cycle for a ring OR busy
	llowrmin	minimum allowable low cycle for a ring (>loltch)
	cnosil	maximum allowable high cycle for a ring OR busy
	llowrmax	maximum allowable low cycle for a ring (< cnosig)

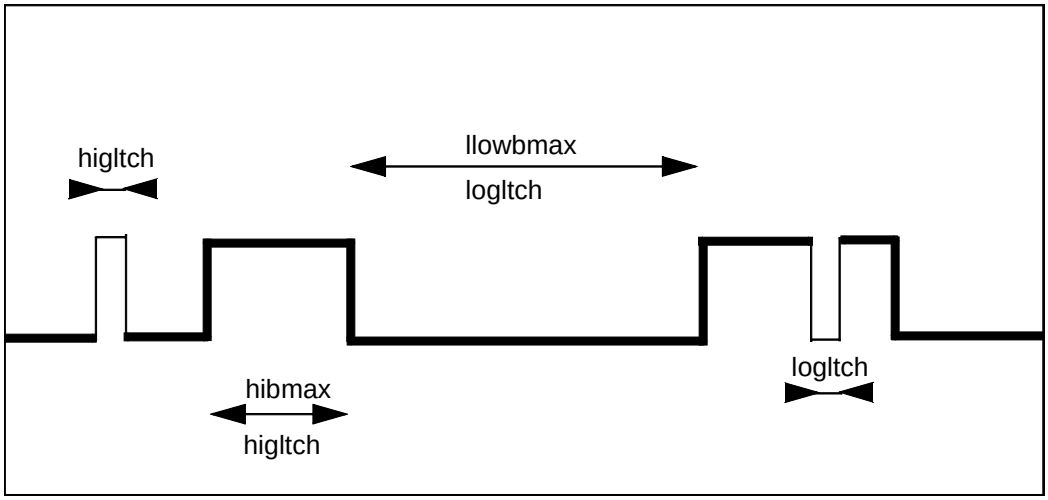
Tolerances	hirtol	allowable tolerance between successive high cycles for a ring
	llowrtol	allowable tolerance between successive low cycles for a ring



Single cycle busy detection

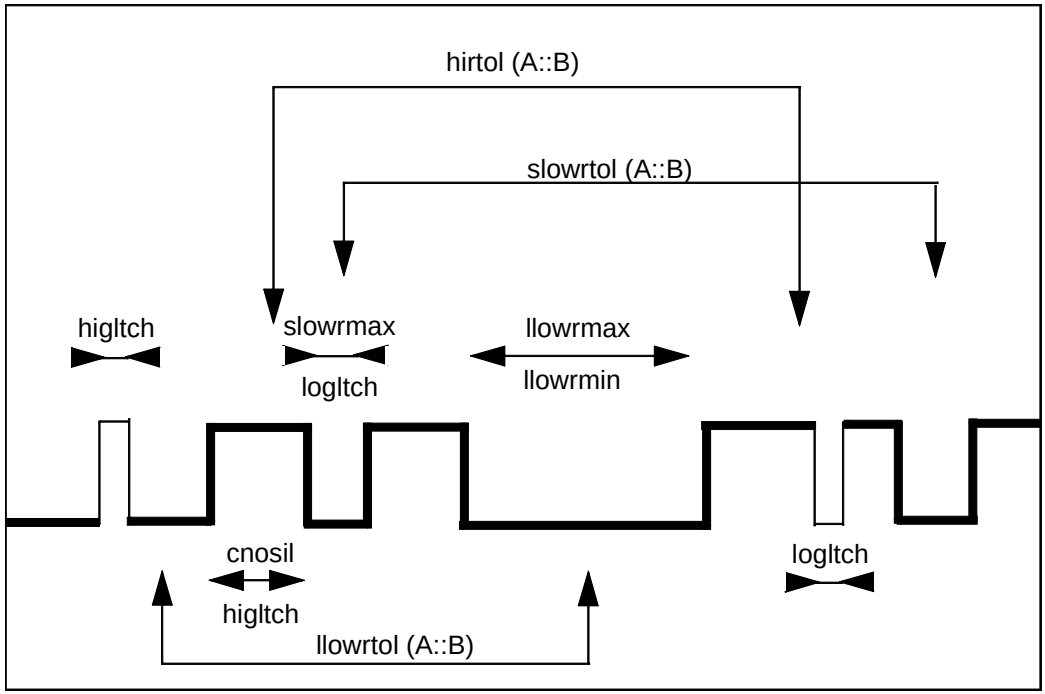
Durations	higltch	minimum allowable high cycle for a ring OR busy
	logltch	minimum allowable low cycle for a ring OR busy
	hibmax	maximum allowable high cycle for a busy (<cnosil)
	llowbmax	maximum allowable low cycle for a busy (<cnosig)

No Tolerances Specified



Double cycle ring detection

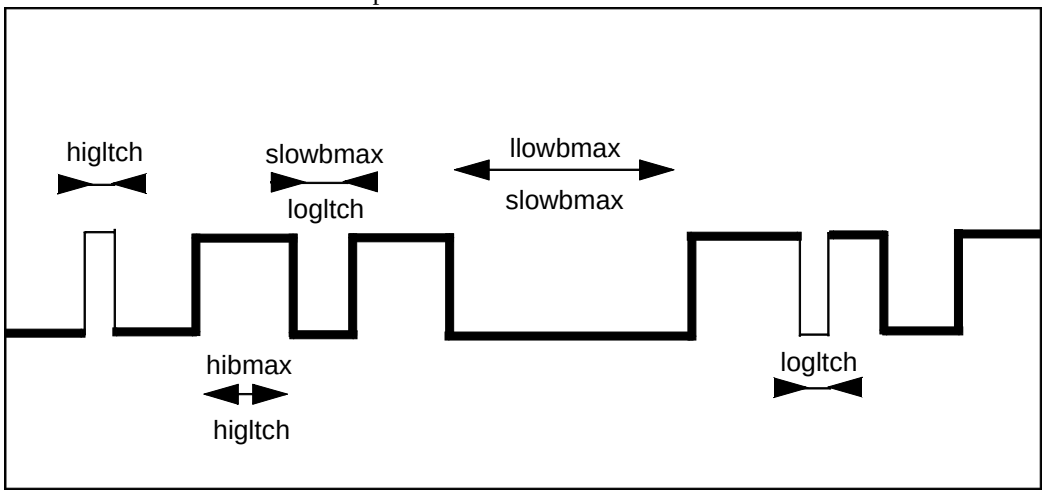
Durations	higltch	minimum allowable high cycle for a ring OR busy
	logltch	minimum allowable low cycle for a ring OR busy
	llowrmin	minimum allowable long low cycle for a ring (>slowmax)
	cnosil	maximum allowable high cycle for a ring OR busy
	llowrmax	maximum allowable long low cycle for a ring (< cnosig)
	slowrmax	maximum allowable short low cycle for a ring (< llowrmax)
Tolerances	hirtol	allowable tolerance between successive high cycles for a ring
	llowrtol	allowable tolerance between successive long low cycles for a ring
	slowrtol	allowable tolerance between successive short low cycles for a ring



Double cycle busy detection

Durations	higltch	minimum allowable high cycle for a ring OR busy
	logltch	minimum allowable low cycle for a ring OR busy
	hibmax	maximum allowable high cycle for a busy (< cnosil)
	llowbmax	maximum allowable long low cycle for a busy (< cnosig)
	slowbmax	maximum allowable long low cycle for a busy (< llowbmax)

No Tolerances Specified



Glossary

This glossary provides definitions of many terms used in the documentation for Symposium OPEN IVR. Some of these terms may have additional meanings not described here.

μ-law

Aso called Mu-law. A form of Pulse Code Modulation (PCM), alternative to A-law. μ-law is used for the B channel of T1 streams. μ-law is the commonly used North American standard.

3270 protocol

A set of communication rules used by workstations designed for use with IBM mainframe computers.

5250 protocol

A set of communication rules used by terminals designed for use with application system computers, such as AS/400, as well as earlier IBM system computers (36 and 38).

acoustic coupler

A device (such as the Audio Interface Unit) used to interface between sound equipment and a port on the MRS/AP.

ACTLU

An SNA command code used to activate the logical unit.

ACTPU

An SNA command code used to activate the physical unit.

Administration Tools

A set of tools, accessible from the Symposium OPEN IVR Control Panel, used to configure and control the Symposium OPEN IVR system.

ADSI

Analog Display Services Interface. The Bellcore standard defining the protocol used for the flow of information between a piece of telephone equipment (such as a switch, server, or voice mail) and a subscriber's telephone, PC, data terminal, or other device with a screen.

agent

A person whose primary role is to handle customer calls that are transferred from a queue within a call center.

AID

Attention identifier. The key that interrupts the operation of the host to process the current terminal input.

A-law

A form of Pulse Code Modulation (PCM), in which the code word maps nonlinearly to the signal value. It is the standard compression algorithm used in digital communications systems of the European digital hierarchy. A-law code words are 8 bits wide. A-law is used for the B channel in ISDN.

Analog Display Services Interface

See ADSI.

ANI

Automatic Number Identification. A protocol implemented in some trunk cards that records the calling number.

ANSI

American National Standards Institute.

AP

Application Processor. A computer or workstation running the AP software in a distributed configuration. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and run-time environment. The AP provides the environment for developing, managing, and controlling the IVR applications.

AP software

Nortel's premiere voice application development and management software package that runs on the Application Processor (AP).

API

Application Programming Interface. Software libraries that enable the development of applications in a new environment, which communicate with applications in the legacy system. Software libraries that provide a standard access to services provided by a software package.

application

1 In Symposium OPEN IVR, a customized program that controls activity on one or more telephone trunks connected to an MRS voice system.

2 On a host computer, any type of program that carries out a task.

application developer

A person who creates Symposium OPEN IVR applications.

Application Editor

A utility used to graphically create or edit interactive voice response applications.

application processor

See AP.

Application Programming Interface

See API.

applicationid

A required hidden field defined in the static Web page that points to the OPEN IVR application to be executed. The name of the IVR application matches the name loaded by the Application Manager on the application server. Do not include the `.vpf` extension.

ASR

See Automatic Speech Recognition.

asynchronous transmission

A data transmission mode in which each character is transmitted independently, using a start bit and stop bit to frame the bits representing the character.

Attention identifier

See AID.

Automatic Number Identification

See ANI.

Automatic Speech Recognition

The ability of a machine to understand spoken input.

barge-in

See voice cut-thru.

bind

The SNA command code used to initiate a session.

branch

A pathway from one cell in an application to the next cell.

buffers

A part of computer memory used to store information from one cell and pass it to another cell.

caller

A person whose phone call is received or originated by a Symposium OPEN IVR application.

call flow

A diagram of a Symposium OPEN IVR application.

Call Logic Interpreter

See CLI.

cell

The basic element of an application. Each cell causes some action to be performed—for example, playing a prompt to a caller. Each cell has a set of branches to other cells. After the cell performs its action, it determines which branch the application should follow to the next cell.

channel

1 A telephone trunk within a cluster of MRSs.

2 A path of communication between the AP and a communications or transmission facility. Channel sequences can span multiple MRSs, and their numbering starts at zero (0). Also referred to as a **port**.

CLI

Call Logic Interpreter. Acts as a virtual machine which manages memory for IVR applications.

CO

Central Office.

COMA cell

A Symposium OPEN IVR cell that cancels a transaction in a VT100 terminal session or with an SNA host. It does not terminate the session itself.

COMI cell

A Symposium OPEN IVR cell that sends input to an SNA host application or a VT100 terminal session using the TRS process.

COMO cell

A Symposium OPEN IVR cell that receives output from an SNA host application or VT100 terminal session through the TRS process.

common vocabularies

Subvocabularies that are grouped together because of common word content (such as DIGITS and YES/NO subvocabularies).

compound macro

A macro provided by the OPEN IVR CGI script that allows a template page to construct Simple Data fields through concatenation.

conditional construct

A control construct provided by the OPEN IVR CGI script that allows a template page to conditionally control segments of the dynamic Web page generations based on whether data is found in the Output dictionary.

config.pl

The configuration file used by the OPEN IVR CGI script that contains the base path locations of the CGI programs and the HTML documents. The file is placed onto the Web server during the AP software Web Option installation.

continuous recognition

The ability to recognize speech input without awareness of explicit word end points.

Control Panel

The Symposium OPEN IVR panel containing the buttons from which you can access the Administration, Information Database Editor, Report, Application, Prompt Management, and SmartHelp tools.

Control Point name

A name that uniquely identifies a node within an SNA network. The name must be unique within the network, or APPN (5250) directory searches do not work properly.

CP

Control Point. A node within an SNA network.

CTI

Computer-telephone integration.

cut-thru

See voice cut-thru.

database

A collection of related information arranged for ease and speed of retrieval.

Database Management System

See DBMS.

data link

The connection from an SNA node to other adjacent nodes in the network. A data link is connected to a computer system through a physical port on a communications adapter.

DBMS

Database Management System. Software that allows you to logically organize data in a table format consisting of columns and rows.

dftlnextpage

A required hidden field defined in the static Web page that points to the name of the default template page. The default template page is used in cases where the IVR application concludes without pushing a template page through a PDAT cell.

Dialed Number Identification Service

See DNIS.

DID

Direct inward dialing. A protocol used by some telephone equipment that allows callers to dial directly to an extension within a telephone system without going through a switchboard.

direct inward dialing

See DID.

discrete recognition

The ability to recognize speech input based on a small interval of silence between words.

DNIS

Dialed Number Identification Service. A feature of 800 and 900 numbers, in which the number dialed or a portion of it is sent to the MRS and stored in the DIGITS buffer in OPEN IVR.

DTMF

Dual Tone Multi-Frequency. Touchtone (push-button) dialing. DTMF is used to encode digits over analog telephone lines. Applications can collect information from callers by having them press telephone keys to create DTMF tones.

DTMF only mode

The default data input mode used by a Symposium OPEN IVR application to process caller input.

Dual Tone Multi-Frequency

See DTMF.

EHLLAPI

Extended High Level Language Application Programming Interface. An API that allows you to search through the host screens for specific data and conduct actions on the data. This is also called screen scraping.

emulation

Imitating a computer or computer system with a combination of hardware and software. Enables programs written for one computer to be run on another.

eXchange Identification

See XID.

EXEC

The cell that executes an OPEN IVR application on the current channel.

Extended High Level Language Application Programming Interface

See EHLLAPI.

falsing

A condition in which certain frequencies in a voice recording are incorrectly interpreted as DTMF tones. In some applications, false DTMF tones may cause the system to perform unwanted activities, such as selecting menu choices, terminating playback, or hanging up prematurely.

field

The specific location of information (data) within a record in a relational database.

gain

The increase in signal power, measured in decibels, when the signal is boosted by an electronic device.

gap rejection error

An error that occurs when the caller speaks before the speech recognizer is ready to accept input.

GDAT

Play Prompts and Get Data. A cell that allows you to play one or more prompts and collect up to 16 digits of input from the caller.

ground start

A method of signaling on the trunk in which one side of the two wires (typically the ring wire) is momentarily grounded to obtain a dial tone. This type of signal is normally used with PBXs.

hook-flash

Depressing and releasing the plunger or handset-cradle on a telephone.

host computer

A networked computer that provides applications and services to other networked computers. The VT100 Gateway product sends information to and receives information from the host computer via the TRS. For the SNA gateway, a host is an IBM computer that supports the SNA communication protocol.

host link

The ability of Symposium OPEN IVR to communicate with other host computers supported by one of the OPEN IVR gateway products. *See also* COMA cell, COMI cell, and COMO cell.

Image Button macro

A macro provided by the OPEN IVR CGI script that allows a Web page to use images as a method for providing data for the IVR application.

index

A subvocabulary.

information database

See database.

Information Database Editor

A utility used to create a message or information database, and to edit an information database.

Input Data macro

A macro provided by the OPEN IVR CGI script that allows a template page access to the data contained in the current Input dictionary.

Input dictionary

A container for data being passed from the Web browser to the IVR application by the OPEN IVR CGI script.

Iterator macro

A macro provided by the OPEN IVR CGI script that allows a template page to access the value of an iterator during expansion.

IVR

Interactive Voice Response.

IVR Developer

A licensed component of AP software that provides application development tools to graphically create or edit interactive voice response applications.

language

A group of words within a vocabulary that are common to a specific people (for example, English, French, or German). A vocabulary may contain words from only one language or be multilingual with words from two or more languages (for example, North American English/Spanish).

large vocabulary

A vocabulary domain consisting of more than 16 words (for example, corresponding to the equivalent DTMF keys on the telephone keypad).

link

A physical connection between two devices.

link station

A logical connection between two endpoints over a physical data link, such as an SDLC link or a token-ring Local Area Network. On any SDLC logical connection between 2 stations, one station is the primary station and the other station is the secondary station. The role of each side may be pre-configured to be primary or secondary, or may be defined as negotiable, in which case the role is determined at connect time. For SDLC stations, the role is configured in the Data Link definition. For each link station, the secondary station address must be configured. This is the address assigned to the secondary station and is contained in all frames transmitted on the connection. The token-ring data link represents a physical connection to a token-ring LAN. For each configured link station, the following are specified: (1) Local Service Access Point (SAP) address, (2) Remote SAP address and (3) the Remote MAC address. Most commonly, the local and remote SAP addresses are 04. The remote MAC address must be configured to match the address of the remote node.

logical unit

See LU.

Loop Iterator construct

A construct provided by the OPEN IVR CGI script that gives a template page the ability to process large amounts of Output dictionary data without needing to reference each individually.

loopstart

A method of signalling on the trunk in which a supervisory signal is given (by taking the phone off the hook). Loopstart seizes the line by bridging the resistance of the tip and ring wires of the telephone line to obtain a dial tone. Loopstart signalling is normally used for single lines or key systems.

LU

Logical unit. A port through which a user accesses the SNA network to communicate with other users and gain access to network resources. LUs are typically SNA terminals or print devices. They are configured under link stations in the Express software.

LU6.2-based file transfer

A protocol for high-performance cooperative processing, used as a file transfer mechanism. The cornerstone of LU6.2 is the concept of a pair of transaction programs (TCP/IP and SNA); file transfer and print sharing are implemented with companion programs, one on each target system.

maplist

A listing showing the association between vocabulary words and the hexadecimal codes passed to your IVR applications.

MF tones

Multifrequency tones. These are tones used by ANI. Symposium OPEN IVR applications can receive and store MF digits when the ANI option is in use.

mode

Refers to the subvocabulary that is currently active. The VINP cell selects the common or unique (sub)vocabulary. Speech recognition operates in this mode until another VINP cell changes the subvocabulary.

MRS

Multimedia Resource Server. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and/or run-time environment. The MRS provides the telephony, information processing (voice, fax, speech recognition, and text-to-speech) environment.

MRS/AP

A single unit that runs a “folded” configuration; that is, a configuration that includes both the Multimedia Resource Server and the Application Processor. The MRS/AP contains the functionality of the other platforms, but in a single hardware unit.

MRS/Rack

A unit comprising a rack-mountable Application Processor (AP) and a rack-mountable Multimedia Resource Server (MRS). Multiple MRS/Racks can be installed in cabinets and stacked to take up less room.

MRS/Tower

The MRS/Tower platform is comprised of an Application Processor (AP) and a Tower Multimedia Resource Server (MRS).

Mu-law

See m-law.

multifrequency tones

See MF tones.

Multimedia Resource Server

See MRS.

network ID

A name that uniquely identifies an SNA network. Nodes and LUs are addressable entities in an SNA network. The names of the CPs and LUs must be unique within a single SNA network. The names of network addressable units are comprised of two parts: the network name, followed by a period, followed by the LU (or CP) name. Each of the two elements that make up the network qualified name can be 1 to 8 characters long, so that the fully qualified name can be up to 17 characters long (including the period).

node

A grouping composed of an AP (running Symposium OPEN IVR) connected to one or more MRSs.

ODBC

Open Database Connectivity. A standards-based API that allows database clients to be configured to access a wide array of ODBC-compliant servers.

Open Database Connectivity

See ODBC.

Output Data macro

A macro provided by the OPEN IVR CGI script that allows a template page access to the data contained in the current Output dictionary.

Output dictionary

A container for data being passed from the IVR application to the OPEN IVR CGI script.

parameter

A variable used to define the function of Symposium OPEN IVR cells. You set parameters in the parameter window for each cell (when using the Application Editor), or in the cell window (when using the character-based Application Editor).

PBX

Private Branch Exchange. A private phone system that allows communication within a business and between the business and the public telephone system.

PCM

Pulse Code Modulation. A method that uses a sequence of discrete integers as code words to describe a time-varying signal. Each integer code word describes the signal level at a point in time.

PDAT

Play Prompts with Data. A cell that allows you to play prompts to announce the contents of a buffer. The buffer content is read according to the specified type.

Physical Unit

See PU.

PRGS

Call Progress Detection.

port

A path of communication between the AP and a communications or transmission facility. Port sequences can span multiple MRSs, and their numbering starts at zero (0). Also referred to as a **channel**. *See also* trunk.

private branch exchange

See PBX.

prompt

A voice recording that helps lead a caller through a Symposium OPEN IVR application.

Prompt Management tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to record, load, and update prompts.

PU

Physical Unit. Hardware or software, or both, that provides services that manage the physical resources associated with an SNA network node.

pulse code modulation

See PCM.

QCMD

An advanced SQL cell capable of performing functions which would otherwise require using C language and embedded SQL programming through a USER cell. You can also use the QCMD cell to perform multistatement SQL transactions within a particular application.

QCNT

A cell that allows you to execute an SQL SELECT COUNT statement to return the number of rows in a table that match specific criteria.

QDEL

SQL DELETE. A cell allows you to delete selected rows in a database table.

QDS

SQL Data Server Manager. A process that distributes the SQL database access workload among data server interface processes.

QINS

SQL INSERT. A cell that allows you to insert a row of data into a database table.

QROW

SQL RETRIEVE A ROW. A cell that allows you to sort through the multiple rows returned when you use the QSEL cell or the QCMD cell to select multiple rows. The QROW cell retrieves up to one complete row from these returned rows.

QSEL

SQL SELECT. A cell that allows you to retrieve rows of data from a database that match the criteria you specify on the QSEL parameter page.

QUPD

SQL UPDATE. A cell that allows you to modify values in an existing row in a database table.

record

1 To store sound on tape or disk for later playback.

2 In a database, a group of related data items (fields) treated as one item.

recognizer

Hardware/software that attempts to interpret caller speech and match it to the currently active vocabulary domain.

Reorder tone

A reorder tone is a fast busy or channel busy tone, which is applied 120 times per minute. The tone means that all switching paths are busy, all toll trunks are busy, there are equipment blockages, the caller dialed an unassigned code, or the digits dialed were scrambled.

rejection error

An error that occurs when speech input does not closely match words in the active subvocabulary.

remote node name

A parameter used to identify a remote node when configuring a connection to an adjacent node. This parameter consists of two parts: the Network ID and the CP Name. If this is a host connection being used for 3270 or LU 0 sessions, the `Remote CP Name` parameter is not required, unless adjacent node identity verification or incoming connections require it. If the connection is being used for LU 6.2 sessions (5250), then the setting of the remote CP name is very important.

Reports tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to generate reports about the system's activities.

screen scraping

See EHLLAPI.

SDLC

Synchronous Data Link Control. A data communications protocol developed by IBM, and used by SNA.

Send Fax

See SFAX.

sense code

An SNA error code returned by the IBM host application.

session

1 A connection to a host computer as defined in the `trs.conf` and `vt100.ctl` files, representing a terminal connection.

2 A connection between two systems for the exchange of user data. Sessions are between logical units (LUs).

SFAX

Send Fax. Cell that sends one or more faxes to a destination fax machine.

Simple Data macro

A macro provided by the OPEN IVR CGI script that allows a template page to access the value of the Input dictionary not associated with data designated for the IVR application such as the required field, applicationid.

small vocabulary

A vocabulary domain consisting of up to 16 words (for example, which can be mapped to the DTMF keypad).

SNA

Systems Network Architecture. A group of IBM protocols that define how IBM computers (and any other computer that uses the SNA protocol) transmit and receive data. This protocol is also used by many other computer hardware and software manufacturers. It presumes an underlying transport such as SDLC, token-ring, Ethernet, or X.25.

socket

An end point (portal) from one TCP/IP application to another.

soft utterance error

An error that occurs when the caller does not speak loudly enough to overcome a signal-to-noise rejection (SNR).

speaker verification

A method for determining the identity of the speaker.

speaker-dependent

Having the ability to recognize speech input from individuals who have "trained" the device to match their unique speech patterns.

speaker-independent

Having the ability to recognize speech input from a wide-array of individuals without training.

spurious response error

An error that occurs when an extraneous noise (for example, a cough) is recognized as a word in the vocabulary. This error can be corrected by prompting the caller to confirm the input.

SQL

Structured Query Language. A type of relational database. SQL statements and commands are used from an interface with SQL-based ANSI-compliant relational and non-relational database management systems (DBMS) to allow applications to retrieve, insert, update, and delete information stored in the supported databases.

station

The physical device to which you communicate.

Structured Query Language

See SQL.

subscriber

A person serviced by a voice processing application (such as voice mail).

substitution error

An error that occurs when the recognizer classifies the wrong word for the spoken word (for example, substitutes “one” when “nine” is spoken).

subvocabulary

A subset of a vocabulary that contains a range of templates. A subvocabulary of the downloaded vocabulary is assigned to each recognizer.

Synchronous Data Link Control

See SDLC.

system administrator

A person responsible for configuring MRSs, installing and running Symposium OPEN IVR applications, managing prompts, and running reports.

Systems Network Architecture

See SNA.

TCP/IP

Transmission Control Protocol/Internet Protocol. A protocol, originally developed for U.S. military communication, that has become a de facto standard worldwide and the protocol of choice for backbone routing of data traffic. It presumes an underlying communications capability such as token-ring or Ethernet.

Telco

Telephone company.

template

1 An ASCII file used by the TRS process to manage the SNA terminal session.

2 An ASCII file used by the TRS process to manage the VT100 terminal session.

3 A binary pattern representing a word or utterance.

template expansion

A procedure that is performed by the OPEN IVR CGI script based on a specified template page. Expansion is relative to the current Input and Output dictionaries. Expansion evaluates the contents of the template page to generate a dynamic Web page.

template page

A file containing HTML constructs and OPEN IVR CGI macros that is used during template expansion for generating a dynamic Web page.

terminal emulation

Allows users in a non-IBM environment to log in to the applications running in the legacy (IBM) environment just as if they had legacy environment terminals (3270 and 5250).

Terminal Resource Server

See TRS.

transaction

The function performed by a set of action and screen template files when executed by the TRS.

Transmission Control Protocol/Internet Protocol

See TCP/IP.

TRS

Terminal Resource Server. The Symposium OPEN IVR process that manages the assignment of system resources to the Host Link products.

trunk

A communication line between two switching systems, frequently referred to as a port. Trunk numbering starts at 1.

unbind

The SNA command code used to terminate a session.

utterance

A speech made by a caller.

validation tag

An identifier on the host screen that uniquely identifies the screen to the host link.

validation tag offset

An entry in the screen templatethat specifies the row and column of the validation tag.

VINP cell

An OPEN IVR cell which toggles data input mode between voice input and DTMF only (default) mode.

vocabulary file

A binary file that contains representations (templates) of words or utterances. The vocabulary file is downloaded to the recognizer board prior to enabling Automatic Speech Recognition.

voice cut-thru

Accepts caller speech while a prompt is still playing.

voice input mode

When enabled by the VINP cell, this mode allows the OPEN IVR application to accept both voice and DTMF input.

voice storage number

See VSN.

VSN

Voice storage number. Internal numbering system used by the MRS for prompts, messages, and faxes (if the fax option is installed); Symposium OPEN IVR uses its own numbering system.

VT100 terminal

Terminal type emulated by the VT100 Gateway product.

vtkcgi.cgi

OPEN IVR Common Gateway Interface (CGI). This CGI script provides the communication between the Web browser and the IVR application.

Web channel

A channel configured on the Web MRS for World Wide Web access into the IVR application through a “call” mechanism.

wink

A momentary interruption in single frequency tone that indicates the distant central office (CO) is ready to receive the digits that were just dialed.

X-Window Application Editor

See XAE.

XAE

X-Window Application Editor. Another term for the Application Editor.

XID

eXchange Identification. When two nodes first establish communications, they exchange identification information in data link level data units called XIDs. There are 2 XID formats (Format 0 and Format 3). Format 3 is the recommended format. The XID contains a 32 bit value called an exchange identifier. The first 12 bits are the block ID, and typically identifies the IBM product that is sending the XID. AS/400 systems use 0x056 as the block ID. Express uses 0xe05 as the block ID. The next 20 bits represent the node ID. Some systems, such as host nodes, use this ID, rather than the CP name, to identify the partner node during XID negotiation. If the system is connecting to a host node, then the configured block ID and node ID must match the value configured at the Host.

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